

MANUFACTURERS' RECORD

A Weekly Southern Industrial and Hardware Newspaper.

Vol. XIII. No. 18.
WEEKLY.

BALTIMORE, JUNE 9, 1888.

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Report of the AQUEDUCT Commissioners.

[NEW CROTON AQUEDUCT, NEW YORK.]

AN ELABORATE VOLUME, CONTAINING AUTHORITY TABLES BY THE CHIEF ENG. B. S. CHURCH. JUST ISSUED.

PLANT (by actual count from Table 13.)

Number of Ingersoll Drills used..... 423

Number of Drills of all other kinds used..... 103

PROGRESS (by actual figures from Table 8.)

Feet weekly progress in best 20 headings that used Ingersoll Drills exclusively (omitting all idle

works)..... 38.73

Feet weekly progress in best 20 headings that used other drills exclusively (omitting all idle weeks) 31.88

DIFFERENCE OF 50 PER CENT. IN FAVOR OF INGERSOLL DRILLS.

All headings where Ingersoll Drills were used exclusively have been completed, except the section under Harlem River, now being driven by Ingersoll Drills and Air Compressors. Send for description of Aqueduct, with Engineers' Tables of Progress and Catalogue. Sent free. We have procured a limited number of the Report of the Aqueduct Commissioners, and will send them by express on receipt of \$5, actual cost to us.

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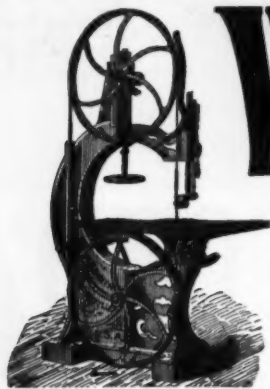
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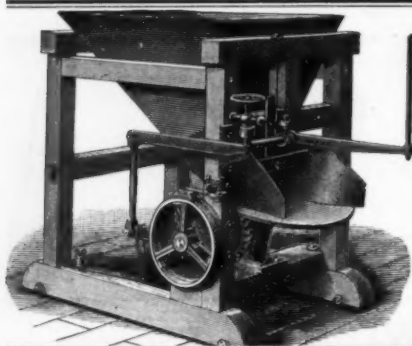
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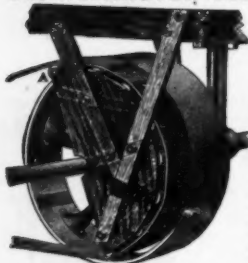
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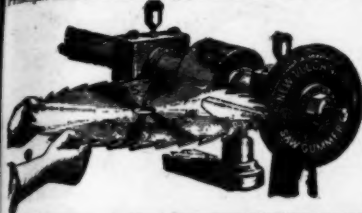
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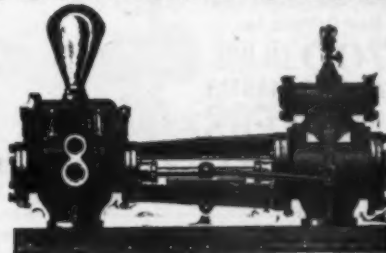
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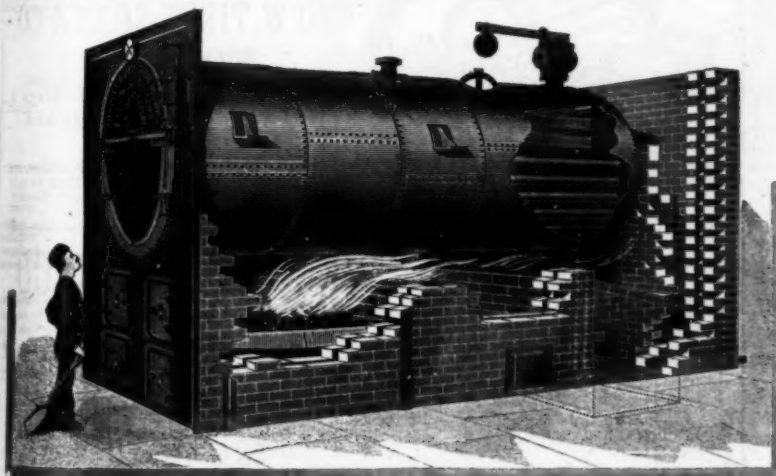


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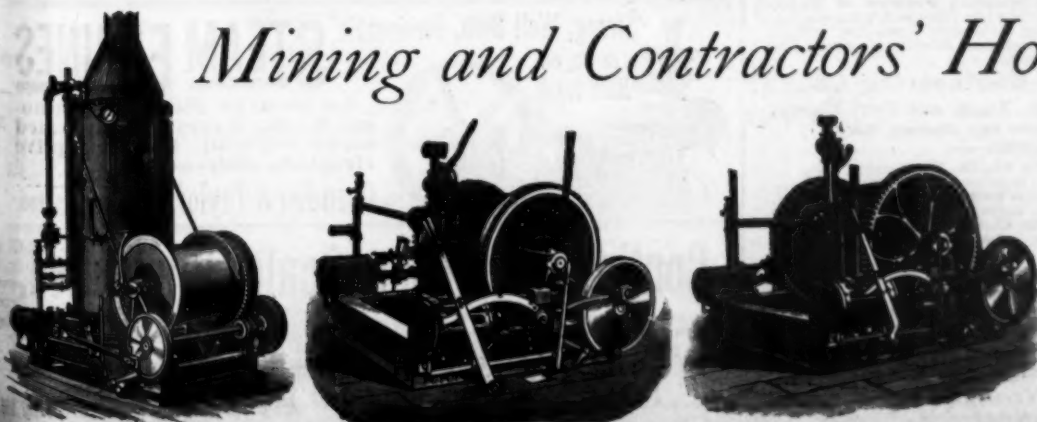
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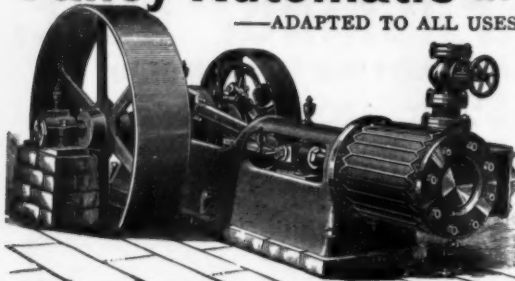


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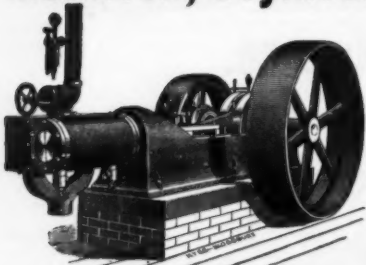
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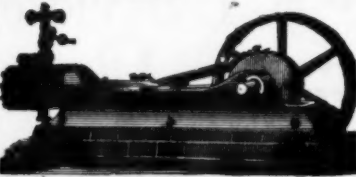
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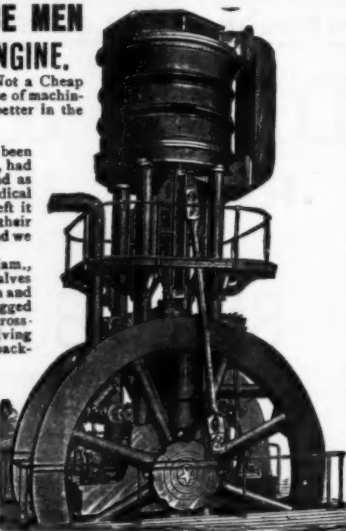
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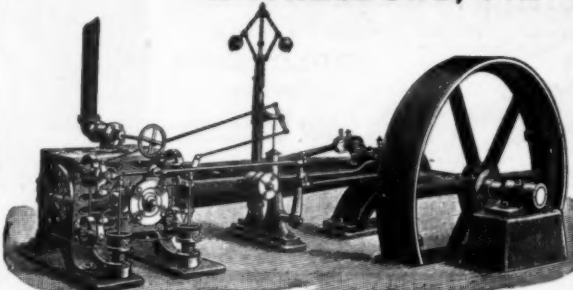
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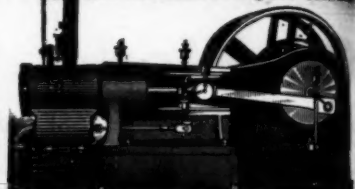
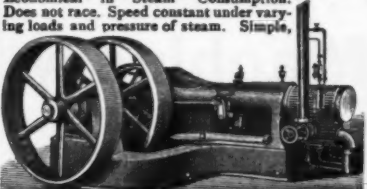
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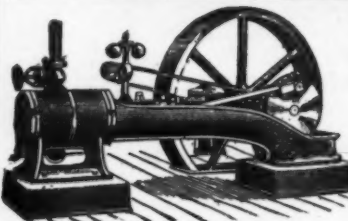
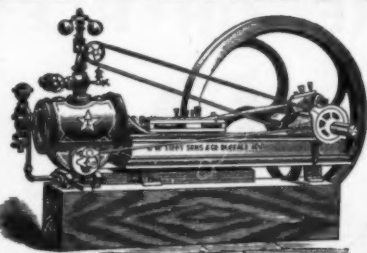
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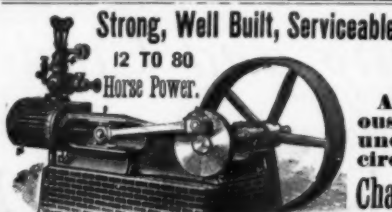
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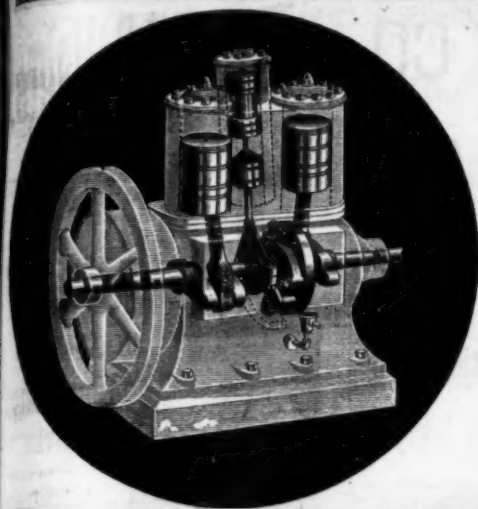
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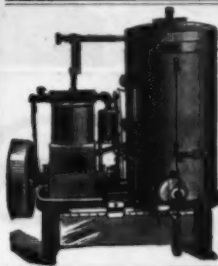
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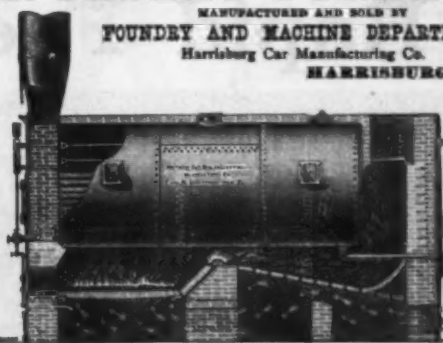
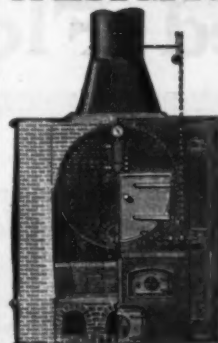
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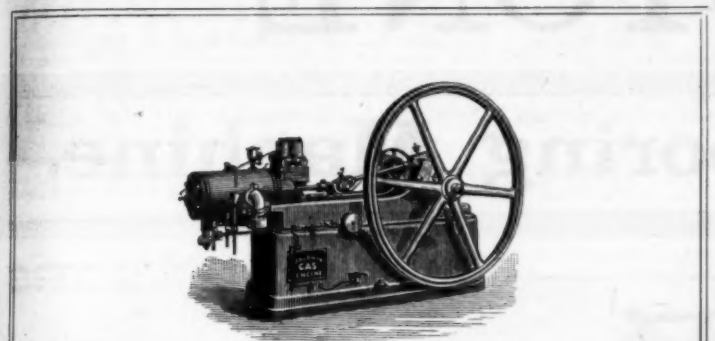
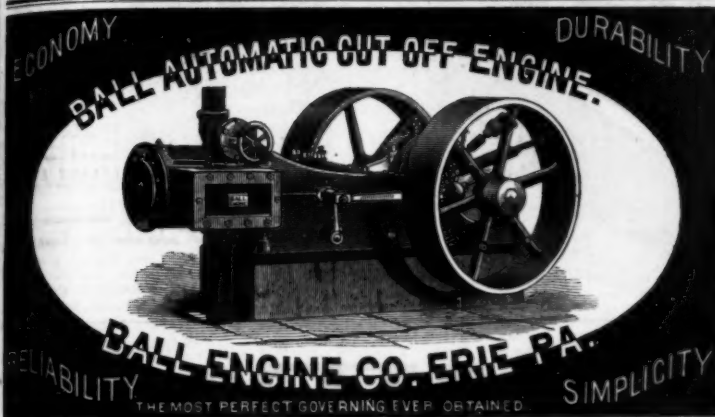
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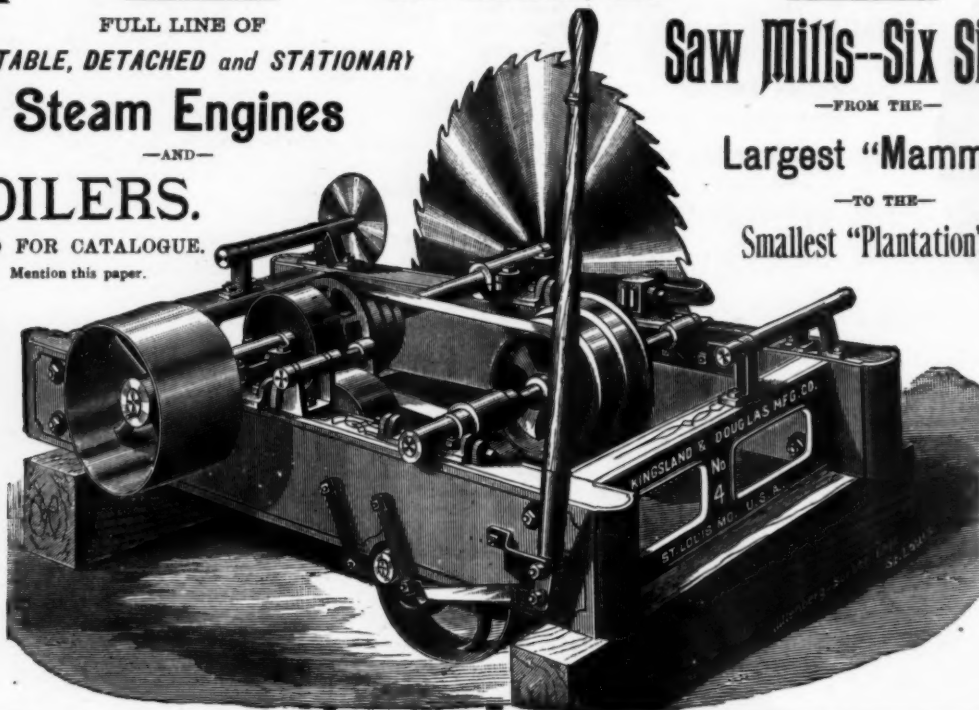
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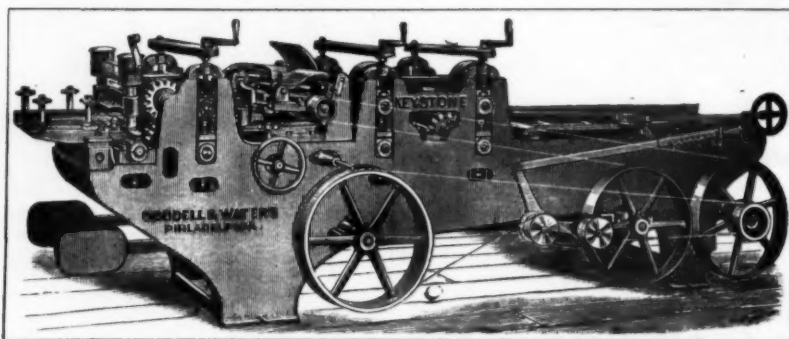
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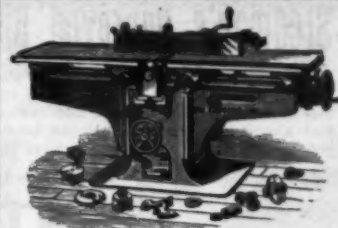
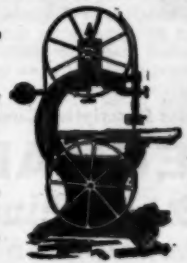
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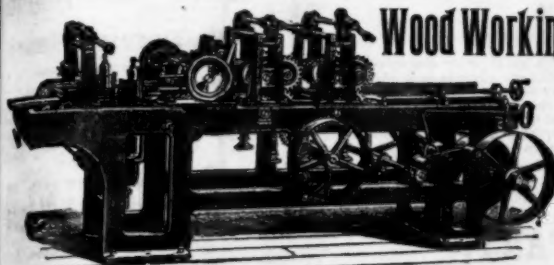


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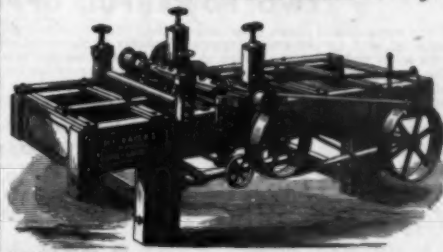
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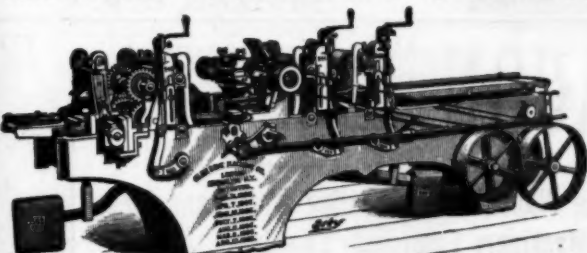
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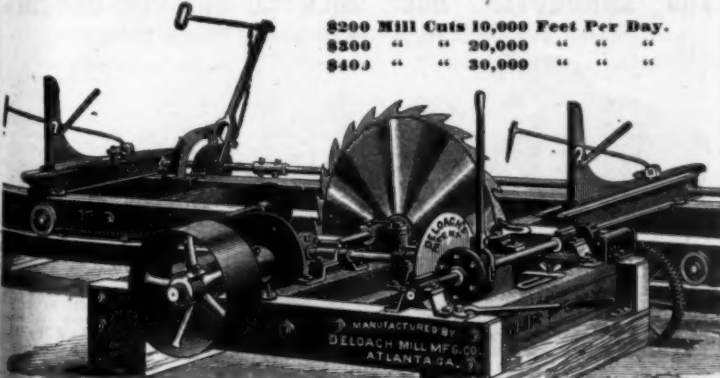
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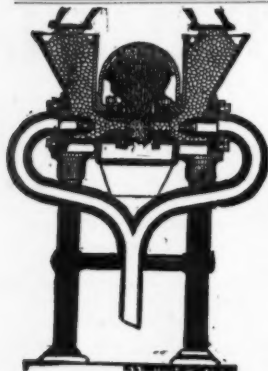


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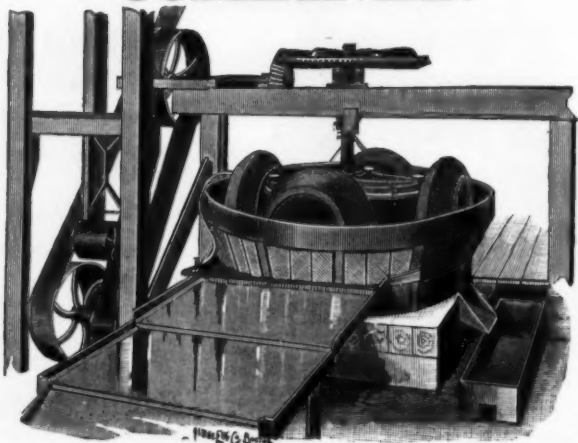
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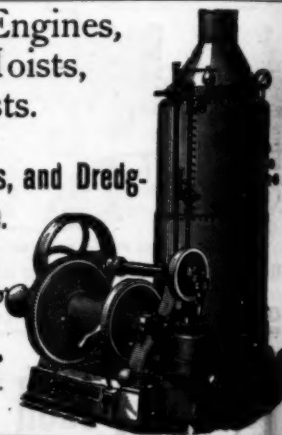
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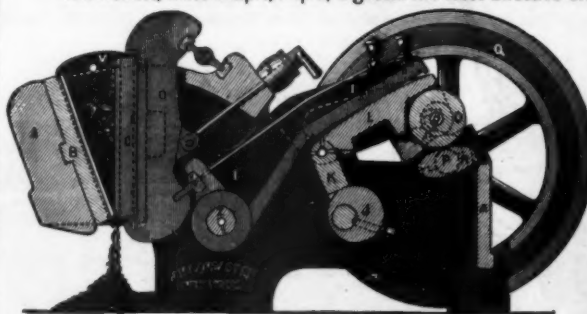
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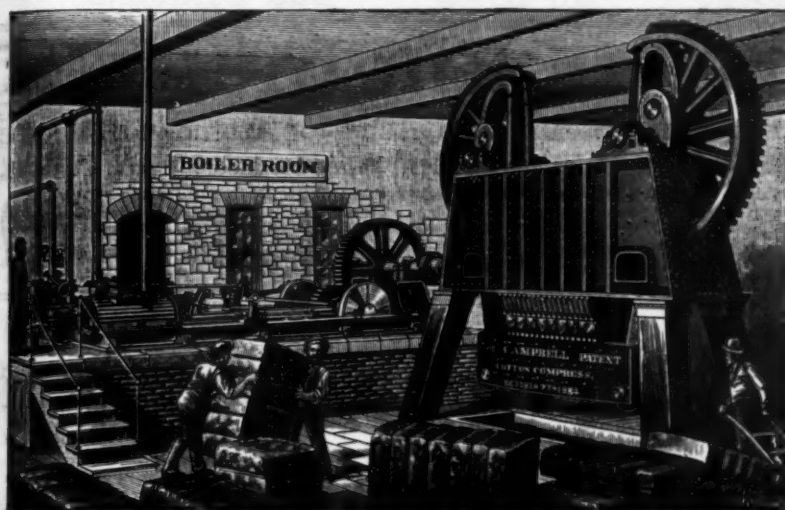
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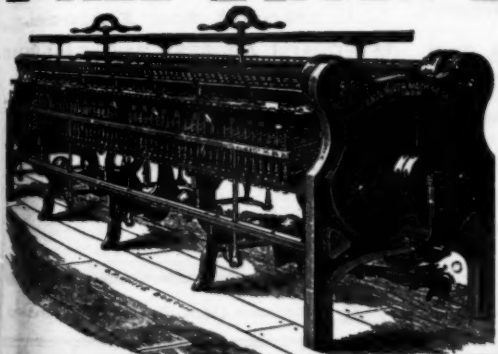
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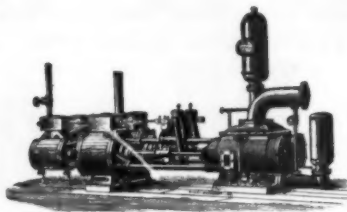
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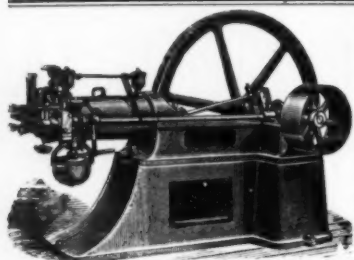
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RICHMOND, VA., April 26, 1888.

Editor Manufacturers' Record:

We desire to write you our opinion as to how we regard the MANUFACTURERS' RECORD as a reliable source of information and as an advertiser. We are pleased to say we have found it to be by far the most reliable paper of the kind published, and, as we have subscribed to all kindred papers, we think we are in a position to judge. We have discontinued all subscriptions to papers purporting to be of the same class, as we find all the information regarding the erection of new enterprises in the MANUFACTURERS' RECORD about one week ahead of any of the other journals. Through your Construction Department we have secured some of the largest orders placed in the South for rubber and leather belting, among them that of the Empire Lumber Co., at Empire, Ga., to whom we furnished some \$5,000 worth of belting; the Orange Park Lumber Co., at Orange Park, Fla.; the Brenham Oil Works, Brenham, Texas, and many others too numerous to mention. We cheerfully give you an advertisement, and feel assured that the money is well spent. We will say we do not believe in newspaper advertising, and your paper is the only one in which we would care to have an advertisement of any kind. We have been subscribers to the MANUFACTURERS' RECORD for three or four years, and intend to keep up our subscription as long as the paper is published. Very truly,
GARCIN, MOSELEY & BÖHMER.

**Fletcher & Thomas, Manufacturers of
All Kinds of Brick-makers'
Supplies.**

INDIANAPOLIS, IND., April 6, 1888.

Editor Manufacturers' Record:

We are happy to say that the direct results from our advertisement in the MANUFACTURERS' RECORD have been very satisfactory. Our trade throughout the South since January 1 has more than doubled that of last year, and very largely we know this has come from the fact of your paper reaching to all quarters, and directly to those who are looking for improved machinery. Hardly a day passes that we do not receive letters saying "we see by the MANUFACTURERS' RECORD that you have improved brick machinery, etc. etc." We heartily recommend your paper as a medium for reaching the people. Yours very truly,
FLETCHER & THOMAS.

**F. F. Adams Co., Manufacturers of
Patent Household Articles.**

ERIE, PA., March 10, 1888.

Editor Manufacturers' Record:

The "ad." we have in your paper we consider one of the best investments we have made this year. We are receiving numerous enquiries from first-class houses, asking for catalogues and best cash prices. This is our second year with you, and we can trace a number of our orders direct to our "ad." in the RECORD. We have tried other papers who claim to reach the trade we are seeking, and have settled on the MANUFACTURERS' RECORD as being superior to all others for Southern trade. Yours truly,
THE F. F. ADAMS CO.

**F. F. Waters Manufacturing Co., Manu-
facturers of Smith's Patent
Friction Drill.**

BOSTON, MASS., February 4, 1888.

Editor Manufacturers' Record:

It gives us pleasure to state that our "ad." in the MANUFACTURERS' RECORD has brought us, on the average, about 30 letters per month. We consider it a paying investment. Respectfully,
F. F. WATERS MFG. CO.

**Cordesman, Meyer & Co., Manu-
facturers of Wood-Working
Machinery.**

CINCINNATI, O., January 11, 1888.

Editor Manufacturers' Record:

We are highly pleased with the returns from our advertisement in your journal, and take pleasure in recommending it to others in our line as a valuable medium for reaching the trade. Yours very truly,
CORDESMAN, MEYER & CO.

The Whole South Advancing.

Charleston, S. C., is trying to organize a local company to build a million-dollar hotel, mainly for winter tourists, and if we are to judge by the enthusiasm with which the project has been received, there ought not to be much trouble in carrying through this great undertaking. Few people not intimately acquainted with Charleston realize the great wealth of that city. In proportion to population there are probably few cities in the country that have more actual wealth than Charleston, and certainly there is scarcely a city in the world whose inhabitants are more devotedly attached to their home than those of Charleston. Through all the afflictions that have come upon that place in war and in peace, they have stood by their birthplace, and manfully put forth renewed efforts to build up its prosperity. With this spirit they have undertaken this project for the million-dollar hotel. Very wisely they have determined not to rely upon outside capital. Northern capital will be heartily welcomed, but they do not propose to wait on that, but to put their own money into the enterprise. Whenever we look, this same spirit of energy and enterprise is seen, not only in the new towns of the South, but in the old ones as well. Augusta displayed it in the ease with which she raised the money for the great exposition that is now making such splendid progress. Louisville probably leads all of the old Southern cities in the vim and push with which she is developing not only all branches of her own trade and industry, but the whole of Kentucky. In the era of progress upon which Kentucky has entered Louisville is taking the lead, and in Louisville will center the controlling influences of an industrial development which will soon make Kentucky one of the richest States in the Union.

These are simply illustrations of what the old cities are doing. The smaller towns are showing scarcely less progress. All through the South, and notably so in the Carolinas, the small towns are displaying a degree of energy that would astonish the people who imagine that the South lacks enterprise. There is no boom, but a solid, steady advance all along the line, and, while the more prominent industrial towns, such as Birmingham, Chattanooga, Anniston, Decatur and others, are going ahead rapidly, the whole South is joining the procession and everywhere the signs of activity and business life are seen. The prospect is certainly bright.

THE importation of German collars is seriously affecting business at Troy, N. Y., which the manufacturers of that city attribute entirely to the tariff agitation.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

A British Epitaph.

There lived in England many years ago a dissatisfied man. Blessed with health and vigor, he conceived the idea that he might add to both by dosing himself. Soon after he began to act upon this notion he found that he was losing instead of gaining, but, with that bull-headed conceit for which his race is famous, the more he weakened the more he drugged himself. When death stared him in the face John came to his senses, and in his last will and testament ordered his executors to inscribe on his gravestone this epitaph: "I was well. I would be better, and here I am."

At various times in the history of the United States its people have been generally prosperous. Then they were persuaded by men, as foolish as the dead John Bull, that they might get on faster by taking the free-trade prescription of British financial doctors. Every time they did this they found that the dose did not agree with the body politic, and after a period of great weakness and suffering they resorted once more to protection, and prosperity was restored. It would seem as though a few experiences of this character would suffice, and that the American people, satisfied to "let well enough alone," would turn deaf ears to those who sought to have them repeat these dangerous experiments. One would think also that our British cousins would learn, after their many failures, how useless it is to expect that this country will ever again accept their advice and adopt a free-trade policy. Unfortunately neither supposition would be true. In each succeeding generation of Americans there are many who know nothing of their country's financial history, who adopt heartily the theories taught by their British instructors, and the latter, undeterred by past defeats, renew their efforts for the conversion of the nation. Both instructors and converts have been very busy for nearly ten years in this country, and have made so much of an impression upon the popular mind that the one great public question of the day is the removal of protection and the gradual introduction of free trade. Referring to this, the Boston Commercial Bulletin pertinently asks:

"If our country has done exceedingly well in the past, is doing well at present, and has a fairly good outlook, why strike at the fiscal system under which so much prosperity has been attained, when it is not only necessary to go out of the way to do so, but also to retard other and desirable legislation, unless one has private aims to farther by so doing, or is lacking in good judgment and prudence?"

The closing sentence of this question intimates the reason why. There are "private aims to further." An association of British noblemen and manufacturers, called the Cobden Club, was formed in 1866, whose avowed object is to interfere with the protective policy of other countries, that the introduction and sale of British goods in them may be facilitated. In 1879 that club established agencies

in New York and Chicago. The London Times announced the fact, and said that those agencies were to distribute free trade documents during the congressional campaign of 1880. At the annual dinner of the club in July of the same year Mr. Thomas Bayley Potter, its secretary, who had visited this country the preceding summer, was reported to have said that "the Cobden Club was now about to enter a contest with a foe worthy of its steel. Their eyes were now turned westward; they were going to encounter their foes in the United States, and he believed that they would ultimately be victorious." Evidently Mr. Secretary Potter had received many encouragements while in this country. Agencies had been established in two great centers of influence, a paid lobby was in Washington, the New York Free Trade Club was soon to be organized, the farmers of the West had been furnished with the falsehoods of Augustus Mongredieu, and all things were in shape for a vigorous campaign. The contest thus exultingly announced has been continued without intermission.

Increasing Cost of Coke Production in Pennsylvania.

It seems that the difference in the cost of making iron in the North and in the South is to be still further increased by the higher cost of Connellsville coke, upon which Northern furnaces so largely depend. Discussing this increased cost, the American Manufacturer, of Pittsburgh, says:

For many weeks past the Connellsville coke trade has continued in one rut, with prices hovering around the dollar mark. At present the production of the region is about 70 per cent. of its capacity, and, judging by the outlook, this will not be increased in the near future. There is little being said about the long-talked-of coke combination, but it seems that all hopes of re-establishing the syndicate have not yet been given up.

Whatever may be the future of the coke market, one fact is apparent—the cost of producing coke in the Connellsville region is rapidly increasing. One gentleman whose connection with the trade gives him ample opportunity to form a correct opinion on the matter, estimates the present unavoidable and "dead work" expense of coke making as 25 per cent. higher than it was two years ago. This estimate does not take into calculation any difference in the stated cost of labor, but is based on the additional expense of working the Connellsville coal field as it now exists. A few years ago drift mines in the Connellsville region were the rule; in a comparatively short time they will be the exception. When the vein could be reached by drifts the expense of mining was partly borne by the production from almost the very start. But to reach the vein now expensive shafts must be put down, necessitating a great outlay of capital long before any return can be made. An illustration of this fact is furnished by the recent operations of the Connellsville Coke & Iron Co. at Coke Centre, where a shaft was sunk to a depth of 542 feet before the coal was reached. Moreover, in the drift mines, as well as in the shafts, the face of the coal is receding from the mouth of the pit, and the cost of getting the product to daylight is always increasing. Hence it will be seen that the Connellsville coke operator has but one sure point in the future—his expenses will constantly grow larger.

Cheap Homes for Workmen.

Good dwellings at low rents is one of the essential features of a prosperous manufacturing town, as the better class of mechanics will not put up with inferior accommodations, nor with exorbitant rents. The Pennsylvania Steel Co., which is building up an industrial town at Steelton, near Baltimore, has erected very attractive 8-room, 2½-story houses for their workmen, the rent being \$6.50 a month. About 700 men are already employed there, and as fast as the furnaces and other enterprises are completed the number will be increased until there will probably be from 3,000 to 5,000 hands within a year or two. Every effort is being made to provide the best accommodations for their workmen, and not only to furnish them good houses at a merely nominal rent, but to secure the best supplies of fresh meats, vegetables, etc., for their food, and then to provide schools and churches. These are features that are well worthy of imitation. Contented laborers, well housed and well fed, are essential to the prosperity of any industrial enterprise, and the managers of the great manufacturing industries that are developing so rapidly in the South will find it to their advantage, even from a pecuniary point of view, to follow the example of the Pennsylvania Steel Co. Where laborers can secure good dwellings at such rates, even 8-room houses costing them but \$6.50 a month, with facilities for obtaining fresh meats and other foodstuffs at low prices, there will be no trouble in securing an abundance of good men to operate as many enterprises as can be constructed. The South needs to study this subject, and while the growing towns are advancing the prices of their real estate, they would do well to let that advance be mainly of business property, and not attempt to force dwelling lots to such figures as to make cheap homes for the masses impossible. Cheap homes, but good homes, will attract good laborers, who can afford to and will work for much lower pay than where houses are scarce and rents high.

MESSRS. WARREN, WOOD & CO., commission iron merchants, of New York, in a letter to the MANUFACTURERS' RECORD, say: "The Southern furnaces are well sold ahead, with no stock on furnace yards. One company has contracts on their books for over 100,000 tons. The Southern pig iron trade has grown so rapidly in the East during the last year that it has been difficult to get quick transportation. The Ocean Steamship Co., of Savannah, will put one steamer in commission for this trade alone, which, it is expected, will obviate the trouble." The Georgia Central Railroad Co., which own the Ocean Steamship Co., will soon have their new direct line from Savannah to Birmingham in operation, and we suppose that they will then make special efforts to encourage the shipments of Alabama iron to the North via Savannah.

New Steamers for the South.

One of the indications pointing to the steadily increasing volume of Southern business is the building of new steamships to ply between Northern and Southern ports. On June 9th there will be launched from the ship-yard of Messrs. John Roach & Co. for the Ocean Steamship Co., of Savannah, the City of Birmingham, a freight steamer about 320 feet long by 42 feet beam, which cost \$300,000. She will be schooner rigged, supplied with triple expansion engines capable of making 12 miles an hour at sea. There will be no accommodations for passengers. The capacity will be between 6,000 and 7,000 bales of cotton or 2,400 tons pig iron. The machinery is finished and in readiness to place in position at once. The work will be pushed rapidly, and by the first of August she will make her first trip between New York and Savannah. Arrangements are also being made with Roach & Co. for the building of a first-class steel steamer for passenger service, to be known as "The Kansas City." President Alexander says that \$500,000 will be expended, the object being to make her the finest vessel engaged in the coast traffic. She will be 350 feet long, equipped with twin screws, and will make 18 miles an hour. Work will probably be begun in a short time, and it will take nearly a year for completion.

A Traveling Exposition.

Some months ago Mr. R. F. Kolb, commissioner of agriculture of Alabama, made a very successful trip through the West and Northwest in the interest of immigration to his State. This trip convinced him that there was a chance to do a great work for Alabama in that line, and he has now arranged for a special car, in which he will make a display of Alabama's mineral and timber products, to visit all the leading points of the Northwest. This car will be abundantly supplied with advertising literature, such as newspapers and pamphlets, setting forth the attractions and resources of different parts of the State. Mr. Kolb is enabled to do this through the generosity of the Louisville & Nashville Railroad Co., who have not only agreed to provide a special car without charge, but have also offered free transportation for it over their entire system. Work of this kind will undoubtedly do great good, and Alabama's example might be followed with advantage by other Southern States.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

Active Times in Cotton Mill Building in New England.

Notwithstanding the disadvantages under which New England labors in the manufacture of cotton goods as compared with the South, there is great activity in the building of new mills, while the old ones are earning large dividends. These facts simply emphasize the opportunity for developing this industry at the South, and to show what New England is doing in that line, we take the following from the Boston Commercial Bulletin:

Cotton manufacturing in Fall River is in a highly prosperous condition, and has never been so successful as at present, and the business in that city now appears to be getting on a boom basis. Five new print cloth mills are now projected in that city. The Border City Mills on Wednesday and the Sagamore Mills on Friday of last week, and the Stafford Mills on Monday of the present week voted to increase their capital stock and erect new mills of about 40,000 spindles, for the manufacture of print cloths and odd pieces, or goods for converters' uses.

The Granite Mills are currently, and we believe correctly, reported to be about to build a new mill of about 40,000 spindles. The capital is about subscribed for a new mill of about 40,000 spindles, to be built by a new company, of which Mr. Seth Borden, of the Barnard Mills, is the organizer. The Mechanics Mill is making quite extensive changes in machinery, and the Davol Mills will do the same during the year. The Kerr thread mill project has been delayed, owing to the death of the senior Mr. Kerr, but it is expected that it will assume definite shape in the fall.

Each of the five new mills will probably employ 500 people, or 2,500 in all. If, therefore, work on the mills is started this summer and they are completed within a year, we may expect to see Fall River's population show an increase before the end of next year of considerably more than double the number of employees in the new mills. This will give an excellent impetus to general business in the city.

The boom, however, is based upon the actual substantial facts of an excellent demand and increased margin of profit and growing dividends. Last year was a very successful one and all the Fall River cotton mills, with the exception of the Annawan, Conanicut and Davol, made good dividends. The average of the dividends declared on the capital invested in 1887 was 8 3/4 per cent., against an average dividend of 6 1/2 per cent. on the capital invested in 1886, or an increase of 1.8 per cent. Most of the mills had a good surplus to report at the end of 1887, a most favorable contrast to their condition seven or eight years ago, when most of them were about \$250,000 or \$300,000 in debt.

From the beginning of the present year up to May the dividends paid have been \$738,340 on an invested capital of \$17,800,000, or an average of 4.3 per cent. for the first three months of the year. The dividends paid this year have ranged from 1 1/2 to 10 per cent. for the months past and will probably range for the year at from 5 to 20 per cent., or an average of 12 per cent. This would be an increase of 3.7 per cent. as compared with 1887. The price of 64x64 print cloths is now 3 1/4 cents against 3 1/2 cents on January 1 and 3 1/2 cents at this time last year. Within three months the price has been up to 4 cents for 64x64s, the market being entirely bare of stock, and a general advance of about 7 1/2 per cent. in wages was then made.

The stock is now almost cleaned up; the production of the mills is almost wholly contracted for during June and about one-half contracted for during July, and some

good contracts are already made for August and September. Many manufacturers believe that the price of print cloths will again rise to 4 cents before the end of the year. Meanwhile the price of cotton has declined one-half cent per pound, and, as there promises to be a big crop, will probably continue low.

The demand gives most excellent indications of continuing active throughout the year for both print cloths and the odd pieces which have been produced so heavily throughout the last two or three years. The excellent demand which has prevailed for odd pieces during these years has diverted much of the machinery from print cloths. The result is that the print cloth productive capacity is now considerably below the requirements of the population. As the demand for the odd pieces or convertibles is steadily growing, it is evident that there must be an increase in the productive capacity. Hence the new mill projects, which are fully justified by the present condition of the cotton goods manufacturing and trade. If work on the mills is begun this summer, as is proposed, it will be a year before the product of any of them can be placed on the market. Meanwhile, not only will the mills now in operation earn good dividends, but the consumptive requirements of the country will also continue to so increase that, in the opinion of good judges, the production of the five new mills will be fully met by the demand.

There is, therefore, not much cause for the stockholders of the mills now in operation to fear that the new mills will prevent the earning of dividends by the old ones. The new mills will be built so as to run both on print cloths and convertibles, and thus be able to take advantage of any change in the demand for one or the other class of goods.

The present excellent and increasing demand, good and advancing prices, splendid prospects for trade, the good dividend earning capacity of the mills and their surplus of money are all strong arguments in favor of the building of the new mills. It will be conceded by all good business men that it is wiser, and more in accordance with sound business policy, to provide for the requirements of the market whenever they are surely shown by the advancing prices and the excess of demand, than to wait until the demand has got so far in excess of the supply and the margin of profits are so large that a headlong rush to new mill building is caused. The result then is to increase the capacity far beyond the demand, and to force prices to a low and unprofitable level for all engaged in the business.

If the editor of the MANUFACTURERS' RECORD is a Democrat, he is of the Randall stripe, and is not in accord with the party as represented by its head, its platforms or its majority.—Pensacola Commercial.

Oh, well, we have no objection to being classed with Randall. Randall's following in the South is steadily growing among the foremost practical business men of that section. They see that it is now the South which needs protection more than New England, and they are unwilling that the present rapid development of their country should be checked by unwise legislation. It was only a few weeks ago when the Atlanta Constitution, in discussing the free-trade tendency of the President's tariff policy, said: "It will check, if it does not permanently stop, the industrial growth of the South, without which the South can never have even general prosperity. These are our views earnestly and profoundly held."

Picking, Ginning and Compressing Cotton.

Editor Manufacturers' Record:

In a previous paper the writer presented figures in relation to the loss sustained while manipulating cotton from the bale to the loom. It would seem that 15 per cent was an excessive loss. I find, in looking over some of the English textile papers, that there is the same feeling existing among their manufacturers that there is in the United States. Cotton comes to them in the worst possible condition, at times so much so that a very heavy loss is sustained by the consumer. The writer will discuss at this time some of the objections made against handling cotton in its first stages. Cotton culture in the Southern States has come to be a vast industry. In the year 1887 it was estimated from careful computation that the crop amounted to 6,600,000 bales. With the net weight at 450 pounds per bale it would amount to 2,970,000,000 pounds. In order to raise this vast amount of cotton, 17,500,000 acres of land was planted to cotton seed. Soon after the war, say some five years, the number of acres planted with cotton seed in the Southern States was 8,985,440, average yield 186 pounds per acre, with a product of 3,795,000 bales.

The picking season usually commences the first or the middle of August, and continues without intermission until the cold weather and frost interferes with the work. As soon as the first bolls appear they are gathered, and thus the work is continued during the picking season. Much complaint has been made against the loose manner in which cotton bolls are picked. No judgment seems to be exercised in picking, for instead of gathering the well-matured and ripe bolls and letting the bolls not quite matured remain, they are also picked, and in many instances cotton bolls that have been injured beyond value for any process of manufacturing, are gathered and put together with the ripe and well-matured cotton. Another feature about cotton picking is in removing the bolls while wet. This is often the case before the dew has dried, or after heavy rains. Cotton coming to gin houses in this condition will be injured almost beyond redemption.

The process of ginning cotton is of such a nature that the greatest care should be exercised in cleaning the fibres from the seeds and not injure them. Cotton never ought to be ginned when wet or damp. The cotton, if ginned wet, will come to the consumer cut, nipped and torn. In order to show just what I mean, I will give the result of an examination of a sample of wet-ginned cotton by a gentleman who has spent more than forty years in the mills of England and the United States. During a recent examination of several samples of cotton—Sea Island, strict middling, Texas, and Egyptian or Allen's Seed—all well matured, beautiful specimens of their kind, I also examined a sample of new wet cotton which a friend had given me. It was the most thoroughly snarled into loops and strings, and the worst ginned cotton I ever saw. If the cotton as it came from the field had been dumped into a great chemical steam bath for the purpose of starting the lint from the seed only, and then passed directly through the gin in a wet condition, it could not have looked worse. Many little flocks of fibres were fastened together as they came from the surface of the seeds. Portions of the little bunches of fibres thus held together by the roots were cut squarely in two by the sharp saw teeth in the gin. The strings of fibres, as they were switched about as tooth after tooth in the saw gin caught them, were rolled together so hard that many of them would not yield to the blow of the whipper or the beaters of the picker, but would drop with the seeds and

heavy dirt. Selecting loop after loop as they were formed when caught on the saw teeth in a wet condition, I found it difficult to separate them, but when pulled apart carefully the fibres were in a lacerated condition and many of them cut on the inside or hollow of the loops. I have seen samples so wet when taken from the bale that 14.67 per cent of water was evaporated in one hour by artificial heat. The same sample was placed on a desk in a room where there was 67 per cent of moisture in the air, and in two hours it absorbed 3.47 per cent of moisture, leaving 11.20 per cent. total loss.

Cotton ginned wet will not only be badly torn, but when compressed in this condition will open in the worst possible condition. Damp and mill dewed cotton will break open like rotten punk. The writer has known invoices of cotton where several bales were worthless on account of mill dew. Cotton should not be ginned damp, neither should the saw gins be run at too high rate of speed. It is quite evident that cotton full of sand, when compressed, will be injured, as the sharp edges of sand will cut the fibres during the severe strain brought to bear upon them during the process of compressing.

CARDER.

Gadsden's Progress.

GADSDEN, ALA., May 28, 1888.

Editor Manufacturers' Record:

The Elliott Car Co. have gotten well under way and had 104 men at work Saturday the 26th, and are anxious to secure 100 more good men, moulders, machinists and wood-workers. They have turned out a lot of new cars of 50,000 lbs capacity. The Kyle Lumber Co., of this city, have two saw mills engaged getting out stock for the car works, the oak, pine and hickory they are putting into the cars now building being equal to any material used in the United States. The Gadsden-Alabama Furnace Co. are progressing finely with their plant; the engines are in position and the tracks in the stockhouse will be completed this week; the boilers are on the ground and have only to be set up to go into blast. Their stock of ore and coke is coming in, and it is now certain that the furnace will blow in the first of August. It is a race between the Anniston & Cincinnati Railroad and the Rome & Decatur Railroad which shall reach Gadsden first; both will be here by July first. The new steamer now building for the Coosa river traffic will be completed shortly. The Printup Hotel is finished and furnished very handsomely, and Major Sublett will open out June first. The dummy line is a fixed fact, and our company are going right ahead and build and equip it. We hope to be running two miles of it by 15th of July.

THE GADSDEN LAND & IMPROVEMENT CO.
M. L. FOSTER, Sec. and Treas.

Melons in Georgia.

MONTEZUMA, GA., May, 27, 1888.

Editor Manufacturers' Record:

Your Northern readers probably know little of the magnitude of the melon crop of Georgia. The acreage over last summer is considerably increased. Between Valdosta and Albany it is estimated that there are 8,000 acres in melons, and that 3,000 car-loads will be shipped and each car takes 1,000 melons. These melons bring from \$90 to \$125 per car; so you see it is a great money crop. About two months time is expended on the crop. A new farmers' organization called the Farmers' Alliance is taking the State. At this place, Montezuma, they publish a paper, which is soon to come out weekly, called the Georgia Farmers' Alliance Advocate. The Alliance men of Macon county will soon erect an iron warehouse here, and C. E. Solomon, of this city, can give all particulars. He wants to give out a contract. They also speak of putting up a guano factory and agricultural works here.

W. G. CHRISTOPHER.

Mississippi Notes.

Agricultural and Manufacturing Items.

[Special correspondence MANUFACTURERS' RECORD.]

ABERDEEN, MISS., June 2, 1888.

Mr. George Colder, of Vicksburg, has patented a device for lifting compressed bales of cotton from the bed of the compress that promises to prove a bonanza to him. It is estimated that it will increase the capacity of a compress at least 20 bales an hour.

The plant for the Vicksburg Canning Factory, purchased in Baltimore, has all been received, and the company hopes to be able to commence work next week.

The Phoenix Ship yard, Marine Ways & Wharves Co. has been incorporated at Scranton, in Jackson county, to erect ways and wharves at the port of Pascagoula.

The following shipments of lumber were made from the port of Pascagoula, on our south coast, during the week ending May 31 by sea:

To	Feet.
Fecamp, France.....	583,010
Milsey, England.....	381,698
Matanzas, Cuba.....	343,088
Key West, Florida.....	96,013
Philadelphia, Pennsylvania.....	425,000
Total.....	1,790,869

A beautiful schooner, built at Frenz's ship-yard, Pascagoula, for parties in Key West, Fla., was launched last week. She is intended to be used in gathering sponges.

On the night of the 23d of May the electric lights were turned on in the city of Greenville. The occasion was one of great rejoicing to the people of that enterprising delta emporium.

Greenville boasts of two cotton-seed oil mills, two compresses, two banks with large capital, street railroads, electric lights, ice factory, steam laundry, telephone, public library, two railroads, saw mills, foundries, brick-yards, and all of the minor industries, and is constructing a fine system of water works. In 1885 she had 2,500 people, and now claims 7,000, and her population is steadily increasing.

Mr. Blanchard is erecting at his ship-yard in Pascagoula a pair of ways that will accommodate vessels of very large tonnage. The Democrat Star, of Pascagoula, says in this connection: "We look forward to the day when this place will be famed for its ship-building."

The Dantzer Lumber Co., of Moss Point, in Jackson county, last week received a "drift" of 20,000 first-class saw logs from Black creek, and another "drift" of 21,000 from Red creek.

New Irish potatoes are plentiful in the sea coast counties.

The pay-roll of the Earl Thomas syndicate of fruit and vegetable growers at Crystal Springs, in Copiah county, for the month of April amounted to \$1,500.

Parties from Chicago were in Boonville last week soliciting shipments of blackberries. The canning factory at Crystal Springs is making this delicious wild fruit one of its specialties.

Dr. Price, of Boonville, in Prentiss county, is shipping cherries to the North. His old trees are paying him this season an average of \$10 each.

The public school in Wesson, in Copiah county, will open its next session in a \$10,000 schoolhouse now in course of construction.

The Louisville, New Orleans & Texas Railroad Co. last week paid into the State treasury \$77,000 in cash on account of back taxes on lands owned by it in the Yazoo delta. This amount, or a large portion of it, will be turned over to the counties of Sharkey, Issaquena, Washington, Bolivar, Coahoma, Tunica, Quitman and Tate, where the lands lie.

The Southwestern Machinery Co., of Meridian, was incorporated last week with a capital stock of \$50,000, divided into shares of \$100 each.

Vicksburg claims that her business this

year has exceeded that of 1887 by fully 25 per cent.

The box factory at Edwards, in Hinds county, has been overcrowded with work ever since the fruit season opened.

Boonville, in Prentiss county, made its first shipment of peaches to St. Louis on May 30th.

R. W. Harvey, of Greenville, is erecting two handsome brick storehouses.

W. P. McBath and others are putting up a cotton ginning establishment in Greenville that will represent an investment of about \$15,000.

The Gulf View Hotel at Mississippi City, on the coast, has been entirely remodeled, and is open for the summer with accommodations for 300 guests.

A correspondent of the Greenville (Washington county) Democrat, writing from Sunflower county, says: "We do not boast of our vast hordes of gold and silver, but we do of our lands and their products. We can show 30,000 feet of hardwood timber to the acre, and after the lumber is gone and the land free from stumps, we can show 1,000 pounds of lint cotton to the acre, or 100 bushels of corn to the acre, with only 20 furrows to a row to cultivate it, and not one pound of fertilizers used, and these on lands that have been worked continuously for more than the fifth of a century. Does the immigrant want any better or richer soil than this?"

In referring to the sports of the Yazoo delta, he says: "Now, if you have any friends fond of fish and fishing, advise them to do as I am now doing—come over to the Sunflower river and float down it, and with a fly and a strong line they can soon fill their boat with the finest bass that ever struck a hook or filled a frying-pan; and if they love squirrels and are not averse to bear meat, they can bring their guns along and feast to their heart's content, for there are plenty here and lots to spare."

The following faithful pen picture will give your readers some idea of the wonderful forest and soil of that richest region of our continent, the Yazoo delta of Mississippi: "I have wandered to day through the jungle that borders this river, and feasted my eyes on the wonders of this beautiful region. Here rest in their pristine beauty the largest and grandest forests of this favored land, and they have never been culled to any great extent by the timber men. Great cow and over-cup oaks spread their tops a hundred feet above your head, with bodies tall and straight as the masts of an old-fashioned "three-decker" man-of-war, and great red gums five and six feet in diameter, shoot their lance-like bodies 120 feet above you, clean-cut as though hewn and turned upon some gigantic lathe, and every now and then you see trailing in graceful festoons from their majestic limbs, great muscadine and grape vines five and six inches in diameter. These look like huge ship hawsers and add much to the beauty of the arcanian scenery. One cannot conceive the grandeur and beauty of these primeval forests who has been raised amid the din and turmoil of city life. To wander alone by the side of this stream amid the wealth of timber spread with such a lavish hand, even for an hour, is like a bath in some cool nook after a hot and dusty day's work. The mind and the body are so refreshed that all fatigue is forgotten, and you feel that new life is instilled into the mortal frame. Nature has in no region of North America been so lavish of rich soil and vast forest wealth as in this wonderful delta. Timber and soil vie with each other in showing up her rich treasures. I am not much given to sermonizing, but were I a minister seeking inspiration, methinks that here in this vast wilderness, where wonders are so lavishly strewn by the Omnipotent hand, I could draw such pictures of His blessings and bounties that few could resist my appeals to fall down and worship their Creator.

The Sturtevant Patent Progressive Lumber Dry-kiln.

The accompanying cuts very clearly represent the construction and method of operation of the kilns and the apparatus required for it. The designer and builder of the apparatus has been before the public for over a quarter of a century as a manufacturer of blowers and heating apparatus. His extended experience and a careful consideration of the wants of his customers has enabled him to present to them, not only this apparatus, but, in connection with it, the complete drawings for a first-class dry kiln of any given capacity.

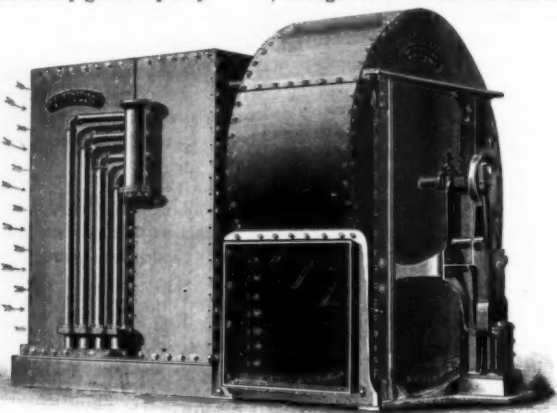


FIG. 1.

The principle which he has adapted in drying is claimed to be "the best and the only one that can secure satisfactory results." Every one is perfectly well aware of the necessity of the circulation of the heated air coming in contact with the lumber in the process of drying. The question always is how to secure such circulation most cheaply and satisfactorily. Of all methods of generating currents of air the most expensive is said to be that of causing a movement by heating the air and thereby changing its density.

The action must be positive, and this condition can best be secured by the use of a fan for impelling the air. The objection has often been raised that it costs too much to run a fan, but, in connection with a heater, it is claimed that it in reality costs nothing; for a heater must necessarily be used in connection with a kiln, and the exhaust from the engine can be entirely utilized in the heater. It is well known that exhaust steam has only three per cent. less heat in it than live steam at 70 pounds. Hence the exhaust from the engine can be utilized in the heater in place of three per cent. less live steam.

The first patent on B. F. Sturtevant's steam hot blast apparatus was issued about twenty years ago. Since that time the apparatus has been greatly improved, both in efficiency and construction. The fact that over 5,000 of the Sturtevant apparatus has been sold is sufficient evidence that he knows what the trade requires and that he has succeeded in supplying it.

The apparatus here represented consists of a fan and heater placed side by side, making a very compact arrangement and occupying but little floor space.

The fan is known as the steel plate and is the latest and most improved pattern, designed especially for handling large volumes of air with the expenditure of a minimum amount of power. Fans above fifteen feet in height are usually constructed with half brick and half steel housings and provided with horizontal steam engines. The advantage of a direct connected engine are evident; it does away with belts and pulleys, is independent of any other source of power, and can be run at any speed desired day and night.

The engines, directly connected to the fans, are built in a superior manner and will show the best attainable economy.

They are especially designed for this work.

The heaters are made of the heaviest lap-welded wrought iron pipe on improved patent sectional bases. These sectional bases vary in length, and the height and floor space of the heaters can be proportioned to any situation. The heaters are arranged for perfect circulation and drainage, and every square foot of heating surface is utilized. They are designed with special reference to the use of exhaust as well as live steam. Each heater section is tested with 150 pounds hydraulic pressure and 100 pounds steam pressure. The heaters are furnished with substantial wrought iron foundation and are encased

in a jacket of steel plate.

It is claimed that, from careful experiments, it has been demonstrated that a given quantity of pipe in one of the Sturtevant heaters will impart four to six times more heat units to a given quantity of air than will an equal amount of pipe arranged in the ordinary form. Single heaters vary in size from 300 to 20,000 lineal feet, and in design and style are proportioned to the situation and work to be performed.

The Sturtevant kilns are arranged on either of two plans, the apartment or the full-length kiln. In the former the rooms of any desired number are constructed to suit some particular size of lumber to be dried. Whether the lumber is piled lengthwise or crosswise of the apartment, the apparatus

is designed to meet the average conditions.

The Sturtevant Standard kiln of this type is 85 feet long, 17 feet wide and 9 feet high, and will contain 12 cars, each car holding about 4,000 feet of lumber. Two additional cars are required for each kiln for the loading and unloading platforms. The holding capacity of a Standard kiln is about 50,000 feet, and the daily drying capacity is from 8,000 to 12,000 feet, depending upon the nature and condition of the lumber. The lumber, loaded upon cars, is run in to the kiln on trucks, two or more cars each day, then slowly passes through against a constant current of air. In this manner the lumber is subjected to an even hot air draught, gradually increasing in intensity as the cars gradually advance towards the hot end of the kiln. The difference in temperature between the two ends of the kiln varies from 70 to 100 degrees. The kiln should be provided with curtains at the top, bottom and sides, so that the hot air shall be forced through the lumber. The piling sticks for 1-inch lumber should be $\frac{3}{4}$ inch thick, and the lumber carefully piled on the car. In the kiln 17 feet wide, three rows of tracks are used, thus giving the lumber three independent supports. Additional capacity is best secured by increasing the number of the rooms, instead of increasing their size.

The cuts show the apparatus located in a small room adjacent to the kiln, and it is advisable to locate the fan as near the dry-room as possible. Where it is necessary, the hot air can be carried through several hundred feet of pipe when it is well protected. It is immaterial whether the hot blast is admitted at the top or bottom of the dry-kiln, although it is usually admitted at the bottom. The ventilation is always at the bottom.

Green and air-dried lumber, dense and porous lumber, of different thicknesses, all require different treatment; for instance, Southern yellow pine, when cut green from the log, will stand a very high temperature, say 200 deg. Fah., and, in fact, this high temperature is necessary, together with the rapid circulation of a large volume of air, in order to neutralize the acidity of the pitch, which causes the lumber

vantage to ordinary dry-kilns where steam pipes are used in the bottom, in which case smaller heaters are required. In dry-kilns thus heated without forced circulation, the application of a fan has increased their capacity 50 per cent. It is even more important to have perfect circulation, which only a fan can give, than a faultless heating apparatus; for the best heating apparatus without such circulation may give the poorest results. The want of circulation in ordinary dry-kilns causes the lumber to blue and discolor.

Attention has already been called to the fact that the fans can be driven either by a belt or by a direct connected engine. Important advantages are gained by the use of the steam fan, enabling the temperature and volume of air to be controlled at all times and causing the drying operation to be continuous. By the use of the steam fan the temperature can be raised gradually and maintained at a uniform, safely high degree until the process of seasoning is complete. Sudden and marked changes of temperature in the kiln are fruitful sources of warping, checking, case hardening, etc. If the drying apparatus is operated but 12 hours in the 24 and the kiln is allowed to cool down at night, then the time of drying will be more than doubled, as several hours are lost in the morning in heating the kiln up to the temperature of the night before. The Sturtevant heaters are designed with special reference to using exhaust steam in the daytime from the engine and live steam at night.

Experiment shows that the air does not become saturated with moisture and rendered incapable of further use in passing through the lumber at once, but that it may be passed over the lumber many times before becoming saturated. The effect of the return duct is not only to increase the temperature of the air, but its relative humidity is changed so continuously and gradually that warping, checking and case-hardening are entirely prevented.

The apparatus is especially designed for utilizing the exhaust steam from the main engine, and, where it is desirable, live steam can be used in the heater at night. The exhaust steam from the engine which drives the fan is also utilized in the heater. Of course, it is well understood that there is no cheaper artificial medium for drying lumber than exhaust steam.

All kinds and thicknesses of lumber cannot be dried at the same time, but, as each require different treatment, it follows that different periods of time are required. One-inch air dried lumber (by air-dried is meant that has stood out from three to six months) can be seasoned in from 36 to 60 hours, while perfectly green inch lumber calls for from three to six days, and lumber of different thickness in like proportion.



FIG. 2.

is so arranged that the air passes through the lumber lengthwise of the piling sticks, and dries it uniformly throughout. By this arrangement the lumber in any apartment may be seasoned to any extent, independently of that contained in another apartment, or the heat may be tempered to different degrees in the different rooms by the manipulation of dampers in the ducts and ventilators. The apartment plan offers advantages where limited quantities of different kinds and thicknesses of lumber are to be seasoned.

The Sturtevant Progressive lumber dry-kiln, which is illustrated herewith, is, however, said to be the most popular form where large quantities are to be dried. This style may, of course, be constructed of various sizes, but the Sturtevant Stand-

ard is designed to meet the average conditions. The treatment of oak, walnut and hickory, and dense lumber of this nature, calls for a large amount of air at a lower temperature; otherwise, the lumber would dry too rapidly upon the outside, the pores close, and the lumber become honey combed and checked. Again, air-dried oak and walnut calls for the use of the return duct or its equivalent, the sweating process, in order to open the pores and soften the outside of the timber, so that the moisture can work its way out to the surface. The Sturtevant process meets the requirements of every case, as by the use of the steam fan a greater or less quantity of air can be admitted into the dry-room, and the temperature can be perfectly regulated.

The apparatus may be applied with ad-

One of the greatest advantages which the Sturtevant system offers is freedom from fire risk. The steam pipes are encased in a steel jacket and placed in an apartment distinct from the dry-room, and do not come in contact with any wood-work whatever. No pipe whatever is used in the dry-room. Parties who are using this kiln are, it is said, getting a less rate of insurance upon the kiln than upon the mill itself.

Mr. Sturtevant is prepared to fit out completely dry kilns of all descriptions, furnishing the engines, boilers, entire heating apparatus, rails, trucks, complete working drawings for building the kiln, in fact, everything pertaining to the perfect drying of lumber. The illustrated catalogue of B. F. Sturtevant's steam hot blast drying and heating apparatus, which contains full descriptions of the apparatus and method of application, will be sent upon application to B. F. Sturtevant, Boston, Mass.

Canton Well-drilling Machine.

One of the subjects of vital importance now before the country is the question of healthy, uncontaminated water, and an unlimited and inexhaustible supply of it. Affecting as it does the health of every individual, its importance cannot be over-estimated, and the universal interest attached to the securing of it indicates the general demand for pure water.

The occupation of drilling for water is one of the very few industries at the present time where the demand is greater than the supply. This demand is constantly increasing with the more thorough development of the country and the rapid increase in population, as well as to the gradual awakening of the masses to a realization of the defective and injurious water supply in many places.

power of the engine, as they carry the weight of the tools. The tension by turning a nut is easily adjusted to any weight of tools desired.

Another valuable feature, readily recognized by all drillers, is the location of the derrick in saddles on the front sill of frame, thereby always being in line with the well and preventing the machine from being



THE CANTON WELL DRILLER.

Of the modern machinery now on the market for the securing of it the Canton well-drilling machine (Davis' patent), manufactured by the Canton Well Driller Co., of Canton, O., has obtained an enviable reputation. They manufacture portable steam well drilling machines, earth boring machines and drillers' supplies exclusively, and the flattering success they are having attests their quality and effectiveness, and the favor with which they are received by drillers.

The increase in their business during the past year has been so great as to necessitate the building of an entirely new plant, with greater facilities, to meet the increasing demands imposed upon them.

We illustrate Lerewith their No. 1, or small size, for drilling 500 feet and under, used principally for water wells. Three additional sizes are made, the largest having a capacity to go 1,500 feet, and differing from the No. 1 in that it is larger and stronger, as is necessary, with increase of boiler and engine capacity, and having horizontal boiler instead of upright. The merits of their machines for which they claim especial favor are simplicity of construction, durability and economy in running expense. Their system of springs (fully covered by letters patent), in connection with the walking beam, produces a perfect motion, relieving the machine of all jar and concussion, and increasing the

lifted up when the tools are hoisted, or when they get fast.

Their new catalogue for 1888 is just out and is very complete with the details of their machines and interesting matter in regard to the well-drilling business, and is furnished free upon application.

Stuart's Door Screen Frame and Corner Iron.

E. C. Stearns & Co., Syracuse, N. Y., are putting on the market a new screen door frame, which is used in connection with a new corner iron, the special features of both of which are shown in the accompanying illustration, Fig. 1 showing the corner iron separate, and Fig. 2 representing it applied to the frame and indicating the manner in which it is attached to it. It will be seen from Fig. 1 that the corner iron is provided with parallel tongues, which, as the screws are tightened, enter firmly into the grooves in the wood at the same time squaring the corners of the door and preventing any sagging or settling. It has a laquered surface of the tasteful design shown, and, together with the blued screws which are used in fastening, makes a tasty addition to the appearance of the door. Each set contains six

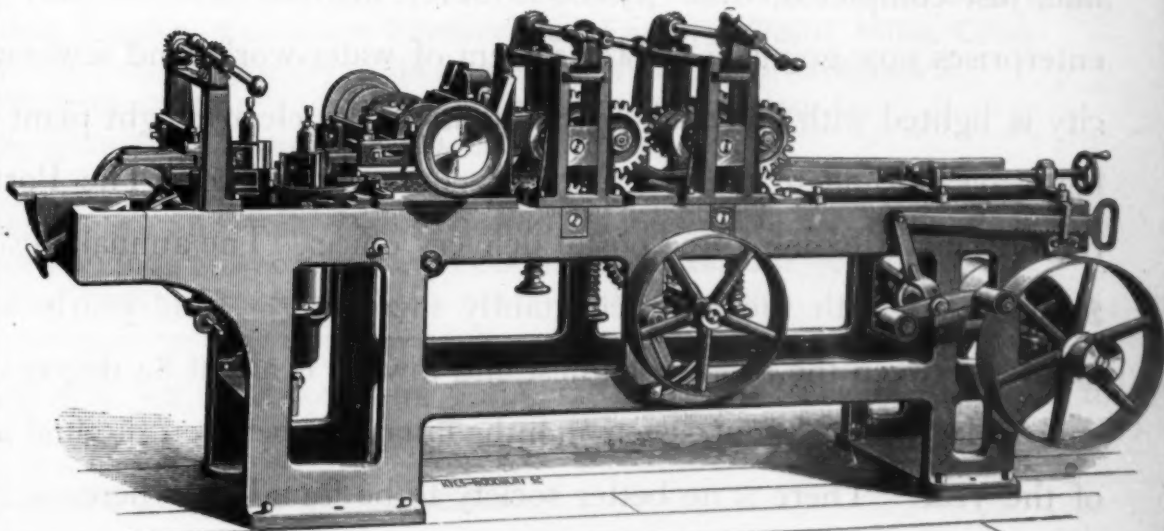


FIG. 1.

corner irons and a knob or handle put in a neat paper box with the necessary screws. The special features of the door frame are shown in Fig. 2, and it is obvious that it can be put together very quickly, no carpenter work being necessary, all that is requisite being to saw the sticks to the proper length and then attach the corner irons. The frames are described as made of carefully selected wood, and finished with a rich black walnut stain. They are furnished $\frac{1}{2}$ x 2 inches and $\frac{1}{2}$ x $2\frac{1}{4}$ inches for doors 3x7 feet and 3x8 feet. A sufficient number of corner irons are packed with each case of door frames. The manufacturers emphasize the advantage this door has over others in the fact that it is adjustable, avoiding the necessity of carrying a great variety of sizes in stock.

New Inside Molder.

This machine is made by Messrs. C. B. Rogers & Co., of Norwich, Conn., and is a



NEW INSIDE MOLDER.

very radical change from their other molders, and is possessed of some new features that will recommend it to every practical operator. It is built in two sizes—to work 10 and 13 inches wide respectively, and up to six inches thick, with all necessary adjustments for sticking moldings of every

style; also flooring and ceiling. The top and bottom cylinders are made from crucible steel forgings, and are slotted on four sides. The pulleys are provided with a large flange, which acts both as a balance wheel to carry the cylinder through a heavy cut and as a convenient means of turning the cylinder when setting cutters. The top cylinder is adjustable endwise across the machine, making a great saving of time in setting molding cutters. The lower cylinder is raised and lowered to any desired position in the same manner as top one. Boxes for both top and bottom heads are connected in yoke form to avoid any cramping. The side spindles are moved to

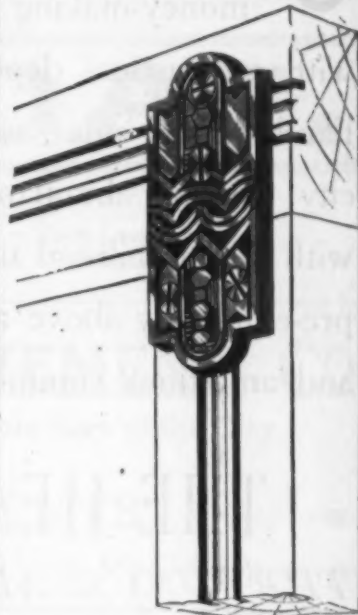


FIG. 2.

any desired position across the bed by means of screws, and both spindles can be tipped to work at an angle. All bonnets, chip breakers and pressure bars are arranged to swing clear of the cutters in the heaviest work, and may be thrown back or removed entirely when setting or sharpening knives. The opening in the bed for lower cylinder may be enlarged or diminished at pleasure, and the entire end of the frame can be swung off to one side, giving free access to the lower cylinder. The feed is very powerful; rolls are geared at both ends, and feed-roll shafts arranged

so that wide rolls can be removed and narrow or spur rolls substituted without loss of time. The feed may be set at any speed desired. Any further particulars desired can be secured from Messrs. C. B. Rogers & Co., Norwich, Conn., or 109 Liberty street, New York.

ROME, GA.

OF all the growing cities in the growing South, Rome presents the greatest opening for money-making investments, with surrounding fields as rich as the lands of Goshen, with exhaustless deposits of brown and red Iron Ores and Manganese immediately at hand on all sides, with mountains of Marble and Limestone coming right up to the city, with an abundance of the best Coal easy of access, areas of untouched forests, and with seven railroad outlets and two navigable rivers, Rome stands, in natural advantages, pre-eminently above any other proud and pretentious city within the limits of this proud and ambitious commonwealth.

THE HEALTH OF ROME IS UNSURPASSED.

*THE UNUSUALLY LOW DEATH RATE IS A PHENOMENON,
STANDING WITHOUT A PEER AT 8.40 PER THOUSAND.
NOT ONE CASE OF CATARRH OR CONSUMPTION EXISTS OR
EVER ORIGINATED WITHIN HER LIMITS.*

Rome has 12,000 inhabitants, has invested in colleges and school buildings about \$300,000; in church building over \$100,000; in her new hotel \$125,000; in the dummy line, just completed, over \$50,000. Her manufactories employ 800 hands, with other enterprises now going up. Her system of water-works and sewerage is unsurpassed. The city is lighted with gas, and negotiations for an electric light plant are now pending. The highways leading to the city are all well macadamized. The Post-office Department has recently made Rome a free postal delivery office. The annual business of the city is about \$12,000,000, with the trade constantly increasing. The yearly range of temperature at Rome, between the average highest and lowest, is about 84 degrees; the mean temperature is 60.6 degrees. About seven months intervene between the first and the last killing frosts of the year. There is no better society to be found anywhere.

The Rome Land Company (J. W. Rounsaville, President, T. F. Howell, Treasurer, and J. L. Bass, Secretary and Business Manager) will donate ample grounds to, and otherwise aid, any worthy manufacturing enterprise that may locate here.

Send for circulars and pamphlets.

GADSDEN, ALA.

"The Hub of the Mineral Belt."

— ONLY —

IRON AND COAL

City in Alabama with River Transportation.

THE GADSDEN LAND AND IMPROVEMENT CO.

Own large tract of Eligibly Located Residence Property in the Most Desirable Part of the City, and have fine location on river and railroad for

MANUFACTURING ESTABLISHMENTS,

And are offering great inducements to manufacturers to locate their plants in this FAVORED LOCALITY. No place in the South has such Wonderful Advantages. Situated in the midst of the RICHEST IRON SECTION in the State, at the foot of Lookout Mountain on the banks of a Navigable River (THE BEAUTIFUL COOSA), surrounded by Forests of the Finest Timber on the Continent, with Fine Building and Fire Clay, and the FINEST BUILDING STONE all around us, with

Uninterrupted Health, and the Purest and Best Water, and Finest Drainage of any City in the State.

Gadsden should become the

→ GREATEST MANUFACTURING CENTER OF ALABAMA. ←

The Alabama Great Southern, Rome & Decatur, Tennessee & Coosa, Anniston & Cincinnati Railroads, with the ever flowing Coosa, navigable the year round, gives us as *FINE TRANSPORTATION FACILITIES* as any other city enjoys.

We now have Railroad Car Works, Furnaces, Foundry and Machine Works, Saw Mills, Sash, Door and Blind Factory, Furniture Factory, Ice Factory, Paint Mills, Grist and Flouring Mills, Cotton Ginnery, Fine System of Water Works, Electric Lights, Telephone Communication over City, and also to neighboring cities, Atlanta and Rome, Ga.

WE WANT Rolling Mills, Bridge and Bolt Works, Cotton Factories, Woolen Mills, Furniture Factories, in fact all kinds of Factories, even Coffin Factories, (but we want to ship the Coffins to some of the other booming cities.

Liberal Grants of Land will be made by THE GADSDEN LAND & IMPROVEMENT CO., to any of the above-named industries.

FOR FURTHER PARTICULARS ADDRESS

M. L. FOSTER, Sec. & Treas.

THE GADSDEN LAND & IMPROVEMENT CO.

Post-Office Box 145.

GADSDEN, ALABAMA.

ALABAMA'S GREAT MINERAL WEALTH

SURROUNDS THE

★ CITY OF TALLADEGA, ★

Which, according to statistics, is the **MOST HEALTHFUL CITY IN ALABAMA**, and the **County Seat of Talladega County**.

THE CITY HAS A POPULATION OF 5,000, AND ITS POPULATION IS RAPIDLY INCREASING.

TALLADEGA is on the main line of the E. T. V. & G. Railroad, the A. & A. Railroad, and is the present terminus of the T. & C. Railroad. Work is rapidly progressing on the Birmingham & Savannah Air Line Road, between Birmingham and Savannah, and within twelve months this road will be completed via Talladega from Birmingham to Savannah, which will place Talladega on the direct line from Birmingham to deep water on the Atlantic, making

TALLADEGA ONE OF THE BEST DISTRIBUTING POINTS IN THE STATE.

THE CITY HAS

AN EXCELLENT SYSTEM OF COMMON GRADED SCHOOLS,

With a scholastic population of 500, and **THE MOST COMMODIOUS AND ATTRACTIVE PUBLIC SCHOOL BUILDING IN THE STATE**. The main building is a three-story brick, slate roof structure, well ventilated, heated by steam; has accommodations and seating capacity for 500 pupils. This school is owned and sustained by the city. All branches of English literature, foreign languages, music, the sciences and art, are taught for a nominal tuition. Among other educational institutions are the following:

SYNODICAL FEMALE INSTITUTE, Property valued at \$50,000.

D. D. & B. INSTITUTE, Property valued at \$150,000.

BLIND INSTITUTE, (in course of construction,) property valued at \$150,000.

FOSTER COLLEGE, property valued at \$150,000.

No other city in Alabama has so many educational institutions and so many public buildings.

← TALLADEGA HAS THE MOST COMPLETE SYSTEM OF WATER WORKS IN THE STATE. →

The stand pipe has a capacity of 175,000 gallons, and into this reservoir a supply of fresh, clear, pure water is pumped every day from a large spring located in the heart of the city, which discharges over 2,000,000 gallons per day. The gravity pressure from this system is 90 pounds to the square inch in the business portion of the city. The city has broad streets, well macadamized and shaded with beautiful trees, and is well lighted with a **SUPERIOR QUALITY OF GAS**. Sixty fire plugs and forty gas lamps protect against fire and illuminate the streets.

A LARGE FURNACE PLANT gives employment to thousands of hands, and makes a high grade of chilled car-wheel iron from ores, limestone and coal within ten minutes haul by rail, or an hour's haul by wagon. **FOUR LARGE LUMBER MILLS**, with an aggregate daily capacity of 200,000 feet of lumber, cut from the long-leaved yellow Pine of this country. **FOUR BRICK YARDS** are in active operation. A SASH, DOOR and BLIND FACTORY, a FOUNDRY, MACHINE SHOP, FLOUR MILL, COTTON-SEED OIL MILL, and various other industries are in successful operation, and the TALLADEGA ICE CO. cools the thrifty population with pure ice at 50 cents per hundred. Another large furnace plant will be completed within the next ten months. A Spoke and Handle Factory and many other industries are projected, with a view to early completion.

Taxable property has increased 100 per cent. within the past twelve months. The rate of taxation is limited in the city charter to half of one per cent., and the city offers an exemption from taxation to all manufacturing enterprises for a period of ten years. The county of Talladega supplies more crude material, in the way of minerals and timber, than any other county in the State. Almost within the corporate limits of the city are extensive deposits of the highest grades of limonite ores, yielding 50 to 58 per cent. metallic iron, with only a trace of phosphorus, and limestone abounds in the greatest abundance. Coal is within twenty miles by rail.

THE TALLADEGA LAND & IMPROVEMENT CO. owns 5,000 lots suitable for residences, business and manufacturing, in and adjacent to the city. Lots are donated to manufacturing enterprises, and liberal inducements offered to actual settlers. **SPRING LAKE PARK** is owned by this company, and it is being made the most attractive resort in the State. The lake covers an area of seven acres, and is a beautiful sheet of clear spring water. Parties seeking a healthy climate, free from malaria and epidemics, and a prosperous city, are invited to visit Talladega. Address for maps, etc.

The Talladega Land & Improvement Co., Talladega, Ala.

SHEFFIELD, Colbert County, Ala.

The Iron Manufacturing Center of the South.

BEING at the head of navigation, and on the south bank of the Tennessee river, Sheffield is the natural outlet for the mineral and manufacturing products of Alabama and neighboring States seeking a water route to points on the Ohio and Mississippi rivers, and to the Gulf of Mexico, as well as the best distributing point over Alabama, Eastern Mississippi and East Tennessee, South Carolina, Georgia and Florida for Northern and Western produce, groceries, provisions, machinery, &c. Four railroads certain, and several others assured. Principal shops of Memphis & Charleston Railroad will be erected here pursuant to written contract. These will employ between four hundred and five hundred mechanics, and consequently, with their families, will make an increase in population of at least two thousand people. Shops of three other railroads are contracted to be located here.

Five Blast Furnaces Now Under Construction,

Of which one is finished, and the remaining four contracted to completion the present summer, have estimated capacity of 700 tons pig iron per day. This is 40 per cent. more than now manufactured at Birmingham, Alabama. Experts do not hesitate to say that iron can be manufactured more cheaply at Sheffield than at Birmingham, and its river transportation facilities will enable Sheffield iron to reach the principal markets at a saving of from

\$2.00 TO \$2.50 PER TON.

A first-class daily newspaper is regularly issued. Furniture Factory, Bottling Works, Bakery, Dummy Street Railroad, a 90-inch Morse Cotton Compress, Electric Lights, Agricultural Implement Works, 3 Steam Brick Works, 2 Hand Brick Works, 2 Steam Wood-Working Establishments, Water Works, 2 Banks, a Savings Bank, and Steam Job Printing Office already in successful operation, and Iron Pipe Works, 15-ton Ice Machine and five-story hotel, with all modern appliances, will be erected. The Cleveland Hotel, Park House and numerous boarding houses furnish accommodations to travelers. Postoffice, Telegraph Office and Express Office already established. Paint Works and Stove Works now under construction. Other manufacturing establishments under consideration, and will probably be built shortly.

Good Water. Free Public Schools and Churches. Health and Climate Unsurpassed.

Drainage excellent. Splendid opening for men of push and energy. No "Old Foggy" element here. No better point for profitable investment.

Sites for Manufacturing Enterprises,

And for Free Public Schools and Churches

Donated by Sheffield Land, Iron & Coal Company.

Population January 1st, 1887, 700; August 21st, 1887, by actual count, 2,583. Increase of population, 300 per cent. in eight months, and only limited by accommodations.

Three years ago the site of Sheffield was cultivated as corn and cotton plantations, and was without a railroad. Numerous two and three-story brick business houses, and one and two-story dwellings have been, and are being erected. The class of buildings will compare favorably with those in cities of 20,000 inhabitants.

LIMESTONE of excellent quality for fluxing iron in unlimited quantities at the furnaces' sites. First-class building stone and brick clay abundant. Rich and extensive deposits of brown hematite iron ore within twenty miles, along the lines of two Sheffield railroads. The Sheffield & Birmingham Railroad runs through the heart of the Warrior Coal Fields, which abound in first-class coking, steam, gas and grate coal. Timber is abundant and cheap.

The Memphis & Charleston Railroad and the Sheffield & Birmingham Railroad are now in operation into Sheffield. The Louisville & Nashville Railroad Co. is now extending its Nashville, Florence and Sheffield division, which will be completed to Sheffield before July 1st, 1888. Surveys of three other railroads have been recently completed to Sheffield, which will soon be the best combined river and railroad transportation center in the South.

Every merchant and every established manufacturing enterprise is doing a profitable business. More are needed. For further information address

WM. L. CHAMBERS, Vice-Prest. and Manager

Sheffield Land, Iron & Coal Co., - Sheffield, Ala.

Anniston

THE CENTER OF
Iron and Cotton Industry
AND MINERAL WEALTH.

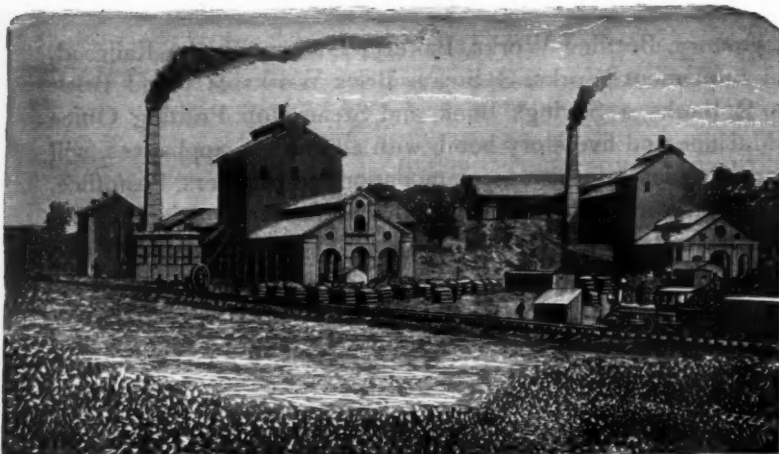
"The Model City of the South."

IT IS

The Profits of Labor only that can add to the wealth and prosperity of a nation or community. It is this only that can make business successful and profitable, sustain and add to the value of real estate.

WHERE

Nature's resources are greatest, where nature's capital in rich agricultural lands, and where iron, coal and other useful minerals are most abundant, most accessible and of superior quality for all purposes, there will capital find its safest investment, largest returns and labor reap its richest reward. It is to the Anniston District where the best professional mining engineers and experts of the United States declare the great center of the iron industry of the South will drift, where its manufacture will be most permanent and profitable, and where ores in the greatest abundance and accessibility exist, and where they will be most easily mined, that this applies.



WOODSTOCK FURNACES—ANNISTON.

The Development of the Past Fifteen Years

Confirms all this, and every year convinces the experts of the correctness of their judgment. It is no longer opinion based on scientific and practical education; it is a fact that is clearly and successfully demonstrated, so that the visitor to the Anniston District can see at every step. The four iron furnaces that have been so long and successfully operated, and the new plant now being erected, and rapidly approaching completion, which will be capable of producing one hundred thousand tons of pig iron a year, demonstrate that

NOWHERE IN THE SOUTH

Has the iron industry been so profitable and so successful, or been established on so permanent a basis, and of no district is this so universally conceded by all, while nowhere else have arrangements been perfected and already established on so complete a scale to work the crude iron into higher branches of manufacture to increase its value, and to bring into the district the profits of skilled labor. THE GREAT CAR WHEEL WORKS OF NOBLE BROS. & CO., their rolling mill and steam forge and machine shops, and the Alabama Car Works, have been absorbed by the

UNITED STATES ROLLING STOCK COMPANY,

With a capital of \$4,000,000, for the purpose of adding to and enlarging the entire plant to build TWENTY CARS A DAY. Everything that goes into the creation of a car, except the tin for the roof and the wire nails, will be created from Anniston's crude material by her labor and skill. Fifty tons of wheel iron will be made into car wheels daily, twenty tons into car axles, fifty tons of pig iron into car and other castings, and fifty tons into bar iron and bolts, making nearly ten thousand dollars per day added to the wealth of the country by profitable labor converting nature's capital to the use of man. This company have a capital of \$4,000,000, and their Anniston works will represent a cash outlay of \$1,000,000. One thousand skilled mechanics will be employed as soon as the great enlargements under way can be completed.

THE STEEL BLOOMARY

Consumes and increases the value of twenty tons of pig iron per day, while the Pipe Foundry converts to the use of man TWO HUNDRED TONS OF PIG IRON PER DAY in one of the largest and best planned and most convenient labor-saving works on this continent. The Foundry of Murray & Stevenson, Engine and Machine Works of Pinder & Co., and Boiler and Sheet Iron Works of J. & D. Noble, all add to the consumption of crude material by the creation of finished work.

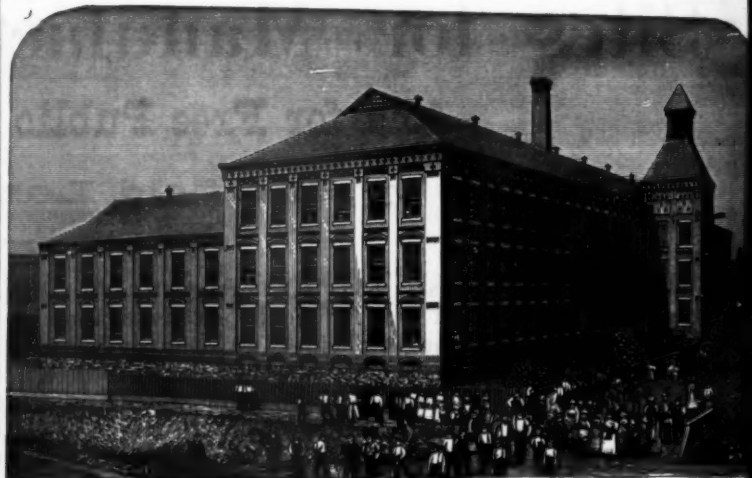
NOR IS IT TO IRON ALONE

That Anniston relies for increase of wealth and population. The Cotton Factory, with eleven thousand seven hundred spindles and three hundred and seventy-five looms, employing over three hundred and fifty operatives, adds greater value to the products of agriculture by converting six thousand bales of cotton into cotton cloth. The immense ninety-inch Morse Cotton Compress, with its brick warehouses, is fast making Anniston a cotton market and commercial center, and aiding its wholesale and retail merchants to extend and hold the trade of the country tributary to Anniston that its system of railroads has opened to them. The Georgia Pacific, the East Tennessee, Virginia & Georgia Railroad systems,

Give Direct Communication and Through Rates

To all parts of the country, while the Anniston & Atlantic Railroad, built by Anniston capital to open up new agricultural and mineral resources, gives Anniston, by connection with the Central of Georgia system, communication with the Atlantic sea coast and the new Anniston & Cincinnati Railroad, built and owned by Anniston citizens, opens up new resources and connections, and a shorter line with the great Northwest.

The proposed extension of the Anniston & Atlantic Railroad to Blocton will give another and shorter line to the great Cahaba Mines, producing the very best coal for domestic and manufacturing purposes in the South. Forty thousand acres of these coal lands, upon which a million and a half dollars have been lately spent in opening new mines and building several hundred coke ovens, ALL OWNED AND CONTROLLED BY ANNISTON CAPITAL, and developed to mine and manufacture three thousand tons of coal and coke per day, secures to Anniston for generations to come a full and certain supply of cheap fuel for all her industries, operated where a rich agricultural country can feed a manufacturing and commercial people, and where the



ALABAMA MANUFACTURING COMPANY'S COTTON MILL—ANNISTON.

Best, Healthiest and Most Invigorating Climate in the World,

With mountain air and pure water, and an elevation of nine hundred feet above tide water, insures the health and comfort of the workman and his family; where health and comfort stimulate and lighten labor, and secure to it and its industries the reward due to both. It is these advantages which have been given by nature that enabled Anniston's citizens to create her past and present prosperity, and which secure her future. It is that they may participate in and avail themselves of these advantages that Anniston invites NEW CAPITAL AND TALENT AND ENERGY from all sections. We invite all to come and see, and on the spot to judge for themselves of Anniston's great resources and possibilities. The comfort and quiet of the famous Anniston Inn will make a visit to our city a treat and pleasure. Any information, attention and courtesy will be given and shown by addressing or applying to the

ANNISTON CITY LAND CO., Anniston, Ala.

CONSTRUCTION DEPARTMENT

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

Allen's Factory—Cotton Factory.—The Falls Manufacturing Co., previously reported as contemplating adding machinery to their cotton mill, want to purchase spinning, twisting and carding machinery.

Anniston—Dummy Railroad.—The Aderhold Park & Dummy Line Co., reported last week, expect to begin work on their dummy railroad within 60 days, and complete it within 6 months. They will build a lake, hotel, &c., at Aderhold Park. About \$75,000 will be invested.

Anniston—Harness Factory.—E. E. & J. C. Cheney will start the manufacture of harness.

Anniston—Dummy Railroad.—W. H. Williams, Joseph Carthell, H. Mabbett, W. T. Johnston, E. C. Anderson and others have incorporated the Anniston, Williamsport & Highland Cave Railroad Co., capital stock \$120,000, to build a dummy railroad about 5 miles long. They will soon commence building the road and expect to have it in operation within 9 months.

Anniston—Depot.—The contract to build the freight depot and offices for the Anniston & Cincinnati Railroad, previously reported, has been let to F. E. Frizell. The building will be 32x132 feet.

Anniston—Houses.—H. A. Shirrell will build a number of houses.

Anniston—Machine Shops.—The Anniston & Cincinnati Railroad Co. will soon commence work on their machine shops, previously reported. The grading has nearly been completed.

Atalla—Depot, &c.—The Chattanooga, Rome & Carrollton Railroad Co. are grading for their depot, yard, etc.

Atalla—Iron Mines.—D. G. Crudup, of Chattanooga, Tenn., and others have leased the iron ore lands of Peoples Bros., and will extensively develop.

Atalla—Planing Mill.—W. O. McComac will, it is stated, build a planing mill.

Bessemer—Ice Factory.—The Bessemer Manufacturing Co., previously reported, have organized with J. T. Moon and others as directors. They have ordered machinery.

Bessemer—Fire-brick, Tile and Terra Cotta Works.—The name of the company previously reported as formed by J. J. Hobbs, of Keystone, Pa., to establish fire-brick, tile and terra cotta works, is the Bessemer Fire-brick & Tile Co. They are about commencing work. About 40 hands will be employed.

Birmingham—Street Railroad.—The Birmingham Union Street Railway Co. will extend their road through Avondale. The new line will be about 2 miles long, and will be double-tracked most of the way.

Birmingham—Warehouse.—The Columbus & Western Railroad Co. (office, Columbus, Ga.) will build a storage warehouse 3000 feet.

Birmingham—Houses.—The Thomas Iron Co. will build 34 houses.

Birmingham—Rolling Mills.—The Alabama Rolling Mills will put in 5 additional gas furnaces and some other machinery during the summer.

Birmingham—Coal Mining &c.—O. T. Holmes, previously reported as forming a company to develop coal lands, has, with others, organized the Alabama-Sewanee Coal & Coke Co., capital stock \$500,000. R. M. Mulford is president; O. T. Holmes, secretary, and N. S. Smithson, treasurer. They own about 24,000 acres of coal lands in De Kalb and other counties.

Birmingham—Iron Furnace.—The Sloss Iron & Steel Co. have blown out their second furnace to make repairs.

Birmingham—Lime Works.—J. C. Westbrook contemplates increasing the capacity of his lime works.

Bolling—Sash Factory.—Milner, Caldwell & Flowers will add some machinery to their sash factory.

Choctaw Corner—Wagon and Buggy Factory.—The Thomasville Wagon & Buggy Manufacturing Co. will erect a wagon and buggy factory, probably the same as the factory previously reported as to be built by J. Studebilt.

Cross Plains—Hotel.—A hotel is projected.

Decatur—Belt Railroad.—A belt railroad is reported to be built. If true the Decatur Land, Improvement & Furnace Co. can give particulars.

Decatur—Chair Factory.—Thomas M. Brumby, of Marietta, Ga., will not start a chair factory as lately mentioned.

Decatur—Warehouse and Elevator.—The Memphis & Charleston Railroad Co. (office, Memphis, Tenn.) are preparing to build their warehouse and elevator previously reported.

Decatur—Shoe Factory.—A shoe factory is reported to be started. J. B. Read can give particulars if true.

Decatur—Sash, Door and Blind Factory.—It is stated that a sash, door and blind factory will be started. J. B. Read can give information.

Edwardsville—Gold Mining.—The Pinetucky Gold Mining & Mineral Land Co. has been organized to develop gold mines, &c.

Hartselle—Wells.—The mayor and council contemplate having one or more artesian wells sunk, and correspondence is wanted with well drillers. Address D. W. Day.

Huntsville—Bucket Factory.—Parties have been prospecting with a view to starting a factory for manufacturing cedar buckets.

Huntsville—Dummy Railroad.—Arthur Owen Wilson, of Birmingham, has charge of the construction of the dummy railroad previously reported as to be built to the Monte Sano Hotel by the North Alabama Improvement Co. and others. Work has been started.

Huntsville—Electric Light Plant.—W. C. Harris, Jr., agent Waterhouse Electric Light Co., has contracted to erect a plant at the cave of Mr. Fuller.

Manchester—Bridge.—It is reported that the Louisville & Nashville Railroad Co. (office, Louisville, Ky.) will build a bridge over the Tennessee river at Manchester for the extension of their railroad to Huntsville, previously reported.

Mobile—Dry Dock.—About \$30,000 have been raised towards building the dry dock previously reported. About \$60,000 will be needed. A. C. Danner can give information.

Selma—Stone Works.—A company is being formed to start the manufacture of artificial stone.

Selma—Broom Factory.—The capacity of the Selma Broom Factory will be enlarged.

Selma—Depot.—The East Tennessee, Virginia & Georgia Railroad Co. will probably soon break ground for their depot previously reported.

Sheffield—Machine Shops.—The Memphis & Charleston Railroad Co. (office, Memphis, Tenn.) will probably soon commence work on their machine shops, previously reported. They have secured the deed for a site of about 60 acres.

Sheffield—Houses.—Dr. Mackintosh, of Paterson, N. J., previously mentioned as to build 50 houses, has let the contract for erecting 10 to the Sheffield Manufacturing Co.

Talladega—Planing Mill.—Farrar & Higgins will not move their planing mill from Anniston to Talladega, referred to last week, but will start a branch mill at Talladega.

Talladega—Buildings.—Arthur Bingham will erect several buildings.

Talladega—Wood-working Factory.—C. Wallis expects to enlarge his wood-working factory later in the year.

Talladega—Railroad, Mines, &c.—The Alabama Iron Smelting Co. lately mentioned as breaking ground for one of their two 100 ton furnaces to be built by them, will build a railroad to open up their iron mines and limestone quarries.

Troy—Dummy Railroad.—It is reported that a company has been formed to build a dummy railroad.

Tuskaloosa—Building.—C. L. Smallwood will erect a brick building 30x100 feet.

Uniontown—Well.—Bids for sinking an artesian well about from 1,000 to 2,000 feet are wanted. J. C. Welch can give information.

Warrior Station.—The Mabel Mining Co. are experimenting with new and cheaper methods for hauling the coal out of their mines.

ARKANSAS.

Arkansas—Syrup Works.—The Sterling Syrup Works, Sterling, Kans., contemplate moving their works to Arkansas or Indian Territory.

Bear—Mining.—The Lost Louisiana Mining Co. have contracted to have the old Spanish shaft cleaned out to a depth of 300 feet. Additional pumping machinery will be required.

Berryville—Canning and Evaporating Factory.—A company with a capital stock of \$25,000 has been formed to start a canning and evaporating factory.

Brinkley—Railroad.—The Louisiana, Missouri & Arkansas Railroad Co. have organized with Arthur W. Soper, of New York, as president; Harlow M. Hoyt, New York, secretary, and J. J. Slocum, New York, treasurer. Part of their road in Louisiana has been completed.

Harrison—Canning and Evaporating Factory.—The name of the company lately reported as to start a canning factory is the Harrison Canning & Evaporating Factory. The capital stock is \$10,000. G. J. Crump is president.

Heber—Saw Mill.—Moore & Case have started a saw mill.

Hot Springs—Slate Quarries.—The Western Land & Improvement Co. are erecting machinery at their quarries for manufacturing slate, previously reported.

Judsonia—Street Railroad.—A street railroad is talked of.

Little Rock—The Southern Hedge Co., capital stock \$50,000, has been organized with R. E. Douglas as president and A. Schrenger, secretary.

Little Rock—Timber Lands.—Robert Holmes will, it is stated, purchase timber lands.

Little Rock—Construction.—J. B. Simpson, C. H. Hoffman, Solomon F. Clark, E. O. Clark and P. C. Dooley have chartered the Interstate State Railway Construction Co., capital stock \$500,000, to build railroads, telegraph lines, &c.

Little Rock—Sewer.—The board of public affairs will receive bids for building a large sewer.

Little Rock—Piano Factory.—It is probable that the Hollenburg Music Co. will soon commence work on their piano factory, previously reported.

Malvern—Planing Mill, &c.—The Malvern Lumber Co., reported last week as chartered, are adding a planing mill and two dry-kilns to their present saw and planing mill. They want to purchase a 75 horse-power engine and boilers to match and other machinery.

Pine Bluff—Railroad.—The Pine Bluff, Princeton & Arkadelphia Railroad Co., capital stock \$650,000, has been chartered to build a railroad from Pine Bluff to Arkadelphia. J. B. York is president; J. B. Rathford, secretary, and H. L. Pick, treasurer.

Pine Bluff—Lumber Mill, &c.—The Muskegon Lumber Co., of Grand Rapids, Mich., previously reported as purchasing largely of timber lands in Arkansas, contemplate building a railroad from Pine Bluff to Malvern and erecting a saw mill, to employ 500 or 600 hands and a number of cottages.

Pine Bluff—Oil Mill.—The Emma Cottonseed Oil Mill Co., will add machinery to their mill to about double their capacity. They are now building a brick warehouse.

Powhatan—Wagon Factory.—J. A. Martin & Bro. contemplate putting steam power in their wagon factory.

Union County—Mining.—The Buffalo Zinc & Copper Co. will add hoisting machinery, jigs, &c., to their plant.

Wrightsville—Planing Mill.—William Farrell will put a large engine in his planing mill.

Yellville—Canning Factory.—Mr. Storrs is organizing a company to start a canning factory.

FLORIDA.

Apalachicola—Saw Mill.—It is rumored that two more saw mills are to be built soon.

Apalachicola—Saw Mill.—It is rumored that a saw mill will be erected by Munro & Co.

Apalachicola—Warehouse.—William M. Blount, of Bainbridge, Ga., is thinking of building a warehouse.

Apopka—Hotel.—Mitchell & Davis contemplate building a hotel.

Apopka—Hotel.—It is reported that Mr. Clem will form a company to build a hotel.

Eustis—Brick-yard.—A. R. Butcher contemplates starting a brick-yard, and wants to purchase a tile or brick machine, second-hand, either stiff clay or semi-dry process.

Eustis—Water Works.—Water works are being agitated and will probably be erected. The mayor can give information when anything is done.

Fernandina—Machine Shops.—The Florida Railway & Navigation Co. will build new machine shops. Work is reported to be commenced soon after the company is reorganized.

Grahamsville—Spoke and Handle Factory.—O. M. Hopkins will start a spoke and handle factory, and wants to purchase machinery.

Jacksonville—Machine Works.—The Merrill-Stevens Engineering Co. will add some machinery to their plant.

Jacksonville—Timber Lands.—The Bradford Timber & Land Co. has been organized at Nashville, Tenn., as reported in this issue, to develop timber lands near Jacksonville. Edgar Jones, Henry Sperry and others are interested.

Jacksonville—Silk.—A company has been formed to engage in silk culture and manufacturing. Mr. Contine is interested and can give information.

Jacksonville—Lumber Mill.—Wilson & Hunting have added a flooring machine to their mill.

Jacksonville—Cigar Box Factory.—J. L. Blaisdell and Guy R. Pride are erecting a cigar box factory, two stories, 54x30 feet.

Kissimmee—Courthouse.—The commissioners of Osceola county will build a courthouse, and invite bids on plans, specifications, &c. \$100 will be paid for the plans accepted.

Kissimmee—Cooperage Works.—A. K. Reeve will establish cooperage works next fall.

Lake Worth—Railroad.—It is reported that a company with a capital stock of \$200,000 has been formed to build a railroad from Lake Worth to Jupiter.

New Smyrna—Church.—Moses Selleck has prepared plans for a church to be erected by the Congregationalists.

New Smyrna—Hotel.—It is reported that F. W. Sams will erect a new hotel, and is having plans prepared for a three-story structure.

Ocala.—The Buffum Loan & Trust Co., capital stock \$200,000, has been chartered by T. C. Buffum, C. E. Connor, E. W. Agnew and others.

Orlando—Sewerage System.—C. K. Needham is preparing plans for the sewerage system previously reported. \$25,000 of bonds have been issued for building the system.

Orlando—Courthouse.—The county commissioners are considering the feasibility of building a new brick courthouse.

Orlando—Soap Factory.—F. A. Duckworth is preparing to start a soap factory.

Palatka—Railroad.—The St. John, Lake Weir & Gulf Railway Co., previously reported, have organized, electing J. H. Watts, of Lynchburg, Va., as president, and J. H. McPeters, vice-president. Work will probably soon be commenced.

Pensacola—Railroad.—The Standard Contracting Co., of Cleveland, O., are reported as commencing work on their contract to build the Pensacola & Memphis Railroad, previously reported.

Sanford—Buildings.—The Plant Investment Co., reported last week as to erect a block of buildings, will erect five blocks of buildings.

Saunder—Brick-yard.—Mr. Whitney has ordered additional machinery for his brick-yard.

Tallahassee—Canal.—James C. Spencer and others have lately chartered the Florida, Ocean & Gulf Canal Co.

Tampa—Railroad.—Lamont Bailey and others have recently chartered the Tampa & Thonotosassa Railroad Co., capital stock \$50,000, to build a railroad from Tampa to Thonotosassa, 15 miles. They have commenced work.

Tampa—Cigar Factory.—D. J. Peroze, of New York, has purchased a site and may build a cigar factory.

Tampa—Cigar Factory.—Emilio Pons & Co., previously reported as to build a cigar factory, have commenced work.

Tavares—Buildings.—A. L. Pearce will erect a block of brick buildings, and is having plans prepared.

GEORGIA.

Albany—Depot.—The Savannah, Florida & Western Railroad Co. (office, Savannah) will build a union passenger depot.

Albany—Oil Mill, &c.—The Albany Oil Co. will put electric light machinery in their cotton-seed oil mill and make other improvements and will enlarge their ginnery.

Americus—Fertilizer Works.—The Americus Guano Co., lately reported as to add an acid plant to their works at a cost of \$25,000, have increased their capital stock from \$25,000 to \$50,000.

Americus—Hotel.—J. W. Sheffield & Co., Thornton Weakly, G. W. Glover, H. C. Bagley and others have formed a company to build the hotel previously reported, to cost not less than \$100,000. They will begin work as soon as the \$15,000 bonus is raised.

Americus—Canning Factory.—B. F. Nipewander will start a canning factory.

Atlanta—Residence.—George F. Boller will build a fine residence.

Atlanta—Church.—The Episcopalians are preparing to erect a church at West End.

Atlanta—Sewers.—C. Dalvigny has lately contracted to build sewers to cost \$33,238.20.

Augusta—Water Works.—The city council have appropriated \$5,000 to extend the water works to the exposition grounds.

Augusta—Dummy Railroad.—The Philadelphia-Augusta Finance Co., previously reported, will, it is said, soon commence improving their property and building a dummy railroad.

Barnesville—Oil Mill and Guano Factory.—It is stated that a company is being formed to establish an oil mill and a guano factory.

Brunswick—Docks, &c.—The cost of the dock extensions reported last week as to be built by the East Tennessee, Virginia & Georgia Railroad Co. will be \$23,000. Littlefield & Tison and R. D. Meader have the contract.

Brunswick—Church.—The Baptists are raising money to build a new church.

Brunswick—Planing Mill.—William Anderson will erect the planing mill reported last week and has purchased a site, 180x540 feet. He has commenced work.

Carrollton.—The Carrollton Land & Improvement Co., capital stock \$25,000, has been organized with Oscar Reese as president.

Carrollton—Bank.—S. C. Mandevim contemplates erecting a bank building.

Carrollton.—The East Carrollton Land Co. has been organized with J. H. West as president. The capital stock is \$50,000.

Dalton—Bank.—The Dalton National Bank will remodel their building and put in an iron front.

Duke—Planing Mill, &c.—H. C. Williams & Co. will erect a planing mill with shingle, lath and stave machinery attached and want to purchase machinery.

Eatonton—Railroad.—Virgel Powers and John Crutchfield, of Macon, have made surveys of the proposed railroad from Eatonton to Madison, previously reported.

Macon—Stone Works.—J. W. Dunn has lately enlarged his artificial stone works.

Midland—Saw Mill.—N. J. Day will add some machinery to his saw mill near Midland.

Milledgeville—Dummy Railroad.—A company is being formed to build a dummy railroad 3 miles long. J. W. McMillan wants to correspond with manufacturers of equipments for such roads.

Montezuma—Warehouse.—The Farmers' Alliance will build an iron-covered warehouse. C. E. Solomon can give particulars.

Montezuma—Guano Factory and Implement Works.—The Farmers' Alliance speak of erecting a guano factory and agricultural implement works. W. G. Christo-

pher can probably give information when anything is done.

Rome—Brick Works.—The Rome Brick Co. will add machinery to their works to manufacture pressed brick, sewer pipe and terra cotta.

Rome—Marble Quarries.—The name of the company lately mentioned as being organized to develop the marble quarries of A. D. Harden, near Rome, if tests proved satisfactory, is the Coosa River Marble Co. The incorporators are A. D. Hardin, F. S. Lathrop, H. H. Hull, J. I. Rankin and others.

Rosewell—Woolen Mill.—The Laurel Mills Manufacturing Co. have recently added 6 looms to their woolen mill.

Sandersville—Water Works.—There is talk of building water works.

Savannah—Building.—The Wilcox & Gibbs Co. will erect a five-story building.

Savannah—Railroad.—M. S. Belknap, general manager the Central Railroad & Banking Co., will receive proposals for building the Columbus & Ellaville extension of their road until June 20.

Savannah—Depot.—The Central Railroad & Banking Co. will build several new depots along their road.

Social Circle—Acid Chamber.—The Walton County Guano Co. will add an acid chamber to their fertilizer factory during the summer.

Tunnel Hill—Ore Washers.—Anderson, Wylie & Co. are erecting ore washers.

Waycross—Saw and Shingle Mill.—C. C. Buchanan will probably erect a saw and shingle mill and wants estimates on machinery.

Waynesville—Brick Works.—G. B. Hack and William Crovett are starting brick works. The capacity will be about 25 M per day.

West Point—Oil Mill and Guano Factory.—It is reported that a company is being organized to start an oil mill and guano factory.

West Point—Cotton Factory.—The West Point Manufacturing Co. will add 3,000 spindles and 76 looms to their cotton factory. They want to purchase that amount of machinery.

KENTUCKY.

Arlington—Elevator.—J. Flegle & Son are adding a grain elevator to their flour mill.

Ashland—Street Railroad.—A street railroad is being built from Ashland to Ironton, Ohio.

Birdsville—Coal Mining, &c.—The Ohio River Coal & Improvement Co., reported last week as having a shaft sunk in their coal lands, is a new company just organized. J. B. Frail is corresponding secretary.

Bowling—Iron Foundry.—L. C. Heminger will add machinery to his iron foundry.

Cottage Grove—Flour Mill.—Todd Bros. are building a roller flour mill. Machinery has been ordered.

Frankfort—Railroad.—The Kentucky Union Railroad Co. have issued \$800,000 of bonds to be used in extending their road to Beattyville, previously reported.

Frankfort—Chair Factory.—The contract to erect the building at the State Penitentiary to be used as a chair factory, lately mentioned, has been awarded to the Mason-Foard Co. at \$53,588. It is to be three stories, 70x370 feet.

Greenup—Spoke Factory.—A. B. Morton and Harry Scott will probably start a spoke factory.

Hopkinsville—Residence.—A. B. Bush will build a \$5,000 residence.

Hopkinsville—Carriage Factory.—The Blumenstall Carriage Co. have purchased the machinery of the Henderson Buggy Co. and the engine, boiler, &c., of the Metcalfe Manufacturing Co., and will add them to their factory.

Hopkinsville—Church.—The Universalists will build a church and have bought a site.

Lexington—Railroad.—A \$100,000 subscription has been voted to the Louisville Southern Railroad.

Louisville—Cotton Mill.—The Louisville Cotton Mill Co., previously reported as to build a cotton mill, have purchased a site of about 25 or 30 acres.

Louisville—Railroad.—The Chesapeake, Ohio & Southwestern Railroad Co. have issued a mortgage for \$3,000,000 to build extensions and feeders.

Louisville—Courthouse, &c.—Proposals for the completion of the interior finish, including alterations, iron steps, vault doors, &c., for the United States courthouse, post-office, &c., will be received until June 27 by Will A. Freret, Washington, D. C.

Louisville—Saw Mill.—H. B. Paul contemplates building a saw mill to cost about \$40,000.

Louisville—Coal Mining, &c.—Atilla Cox, R. F. Coleman, S. S. Bush and John C. Strother have chartered the Elkhorn Coking Coal Co., capital stock \$60,000, to mine coal, manufacture coke, &c. They have purchased coal and timber lands in Wolfe and Lee counties, and will begin developing in about a year.

Ludlow—Machine Shops.—The Mann Boudoir Parlor Car Co., previously reported as to build repair machine shops, are about commencing work.

Mt. Olive—Saw Mill.—P. B. Elkin will move his saw mill from Elkin to Mt. Olive.

Owensboro—Buildings.—F. T. Gunther will erect a block of brick buildings and has plans prepared. J. A. Wilhite has contracted to erect a three-story building for J. D. Powers.

Owensboro—Depot.—The Louisville, St. Louis & Texas Railroad Co. (office, Louisville) will build a depot.

Owensboro—Building.—The contract to erect the building for the United States government, previously reported, has been let to Dumisnil & Co., of Louisville, at about \$34,500. Work will be commenced at once.

Owensboro—School.—A large building will be built for the St. Frances Academy. F. L. Hall can probably give information.

Owensboro—Ice Factory.—J. G. Delker is organizing a stock company to start an ice factory.

Owensboro—Hotel.—John Hanning will soon commence work on a two-story brick hotel.

Owensboro—Railroad.—The Louisville, St. Louis & Texas Railroad Co. will build a seven-mile branch to Owensboro.

Owensboro—Railroad.—A subscription of \$45,000 has been voted to the Vincennes, Oakland City & Owensboro Railroad.

Paducah—Iron Furnace and Pipe Works.—It is reported that a company has been formed to build the iron (coke) furnace and pipe works referred to last week. The Paducah Land, Iron & Coal Co. can probably give information.

Paducah—Iron Furnace.—M. M. Jones, of Paris, Tenn., is organizing a stock company to build the charcoal iron furnace reported last week.

Paducah—Bridge.—The Paducah & Indiana Bridge Co., previously reported, have ordered surveys, &c., made for their bridge contemplated to be built across the Ohio river.

Paducah—Church.—C. H. Rieke & Sons will receive proposals for building a church.

Philpot—Saw Mill.—A saw mill has been erected.

Pineville—Iron Furnace.—Mr. Milligan and Cary Baxter, of Nashville, Tenn., and J. H. Horsely, of New York, have been prospecting with a view to selecting a site to build a large iron furnace.

Pineville—Saw Mill.—F. A. Hull, of Danbury, Conn., has purchased a lumber boom and mill, with B. F. Culver, of Ohio, build a saw mill. The firm name will be B. F. Culver & Co.

Pineville—Water Works.—The Pineville Water Co., previously reported, have organized with F. A. Hull, of Danbury, Conn., as president; J. S. Ray, vice president; D. N. Nason, secretary, and M. J. Moss, treasurer. Will commence work at once.

Somerset—Flour Mill.—Cameron & Co. are refitting their flour mill with roller machinery. The capacity will be 50 barrels daily.

Williamsburg—Saw Mill.—Huffman Bros. contemplate erecting a band saw mill next fall and want price-lists of machinery.

Yosemite—Stave Mills.—Haggerty & Caskey have, it is stated, lately erected stave mills.

LOUISIANA.

Alexandria—Oil Mill.—The New Orleans Seed Co., of New Orleans, will build a cotton-seed oil mill.

Alexandria—Oil Mill.—It is reported that E. B. Wheelock and Richard Herrick, of New Orleans, lately mentioned as contemplating building a cotton-seed oil mill, have formed a \$100,000 stock company for that purpose.

Houma—Canning Factory.—A party has been prospecting with a view to starting an oyster canning factory.

Morgan City—Shingle Mill.—Brownell & Moore will put in a new shingle mill.

Monroe—Cotton Factory.—Subscriptions are being received toward organizing a company to build a cotton factory. It is stated that about half the amount needed has been subscribed.

New Orleans.—S. L. Barriett, F. Emmert and others have incorporated the Barriett Electric Apparatus Co., capital stock \$10,000.

New Orleans—Laundry.—J. Bendersnagle, J. C. Wench and others have chartered the Troy Laundry Co.

New Orleans.—The Damon Co-operative Homestead & Building Association, capital stock \$1,000,000, has been chartered, with Jules Sarrazin, A. O. Person and others as directors.

Pattersonville—Lumber Mill.—M. B. Trelue & Co. will add some machinery to their lumber mill.

Shreveport—Buildings.—W. A. Crawford has contracted to erect two buildings for the Louisiana State Fair & Shreveport Association to cost \$5 881.

MARYLAND.

Baltimore—Brick Works.—W. H. Perot is putting a new plant of machinery in one of his brick yards.

Baltimore—Glass Works.—Henry Seim & Co. will rebuild the building at their glass works lately mentioned as burned.

Baltimore.—The Mudge Meat & Meat Extract Pressing Co., capital stock \$100,000, has been chartered by Charles F. Mudge, Pierce B. Wilson, Joseph Knell, George W. Knell and Henry C. Barranger.

Baltimore—Machine Shop.—The Ellicott Machine Co., 315 Smith's wharf, will put in a 30 horse-power boiler.

Baltimore—Residence.—Martin & Murphy have contracted to build a residence corner Tenth and Charles streets for M. R. Walter, to cost about \$15,000.

Baltimore—Queensware Factory.—Hamill, Down & Co., manufacturers queensware, will erect a four-story brick factory on East West Falls avenue.

Baltimore—Iron.—James A. Delaplaine, Bernard Reilly, George L. David, William M. Dasey and James McDevitt have incorporated the Empire Iron Co., capital stock \$50,000.

Catoctin Furnace—Furnace, &c.—If the sale of the Catoctin Furnace Iron Works property to Thomas Gorsuch, of Frederick,

as reported last week, is confirmed, the works will be put in operation.

Cox's Station—Canning Factory.—A canning factory has been started by the Warfield Manufacturing Co., of Baltimore.

Frederick—Electric Light Plant.—A. B. Smith, representing the New York Electric Construction Co., of New York, is negotiating to put in a Jenny incandescent electric light plant.

Greenstone—Marble Mill.—George W. Scarborough is erecting a new mill for the Green Serpentine Marble Co., 78x89 feet. Eight gang saws, three rib saws and two rubbing mills will be put in.

Salisbury—Buildings.—William H. Jackson will erect a block of two-story brick buildings.

Sharon Station—Canning Factory, &c.—H. T. Harkins, of Forest Hill, has contracted to build a canning factory for Henry J. Horn, of Baltimore. The factory will be used for manufacturing cans during the winter.

Steelton—Iron Furnaces.—The Pennsylvania Steel Co., of Steelton, Pa., will complete their two furnaces, previously reported, within a few months, and expect soon to commence work on two more. Eight furnaces, it is claimed, are to be built eventually; also steel rail works, with a daily capacity of 1,000 tons, &c.

Port Deposit—Electric Light Plant.—A company is being worked up to erect an electric light plant. John M. McClenahan can give information when anything definite is done.

Washington, D. C.—Residence.—Susan H. Shields will build a \$40,000 residence at 1401 Fourteenth street.

Washington, D. C.—A bill has been introduced in the Senate to charter the Underground Cable & Conduit Co., capital stock \$150,000, with Robert R. Zell, of Baltimore, and others as incorporators.

Washington, D. C.—Mausoleum.—The National Mausoleum Safe Deposit Co. have contracted to erect a mausoleum at the Glenwood Cemetery to cost \$100,000. It will be 80x100 feet and 75 feet high.

Washington, D. C.—Buildings.—Charles Walter will erect a \$5,000 brick warehouse at 321 Fourteenth street; W. A. Kimmell, a \$6,000 brick dwelling at 210 F street, N.W.; John R. McLean, a three-story brick apartment house at 935 Ninth street, to cost \$30,000; Charles Weser, a store building at 427 Twelfth street, to cost \$11,200; Joseph Cavanaugh, a \$12,000 dwelling at 1205 F street; J. E. Clokey, 3 dwellings on Pennsylvania avenue, to cost \$15,000, and Mrs. Wallace, a \$9,000 dwelling at 1323 Massachusetts avenue.

MISSISSIPPI.

Aberdeen—Machine Shop.—Enderlin & Beronio contemplate adding some machinery to their machine shop.

Canton—Warehouse.—C. L. Gross, I. Gross, C. Smith, R. C. Smith, L. Foot and others have chartered the Canton Cotton Warehouse Co. to build a cotton warehouse, &c.

Clarksdale—Levee.—Bids for constructing about 500,000 yards of leveeing will be received until June 12 by T. G. Dabney.

Greenville—Ginnery.—W. P. McBath and others are erecting a cotton ginnery at a cost of \$15,000.

Grenada—Laundry.—A steam laundry will be started, and J. F. Gurley wants to purchase machinery.

Natchez—Building.—The contract to build a new chancery clerk's office has been let to B. B. Davis at \$8,050.

Natchez—Electric Light Plant.—The Natchez Gas Light Co. will add an electric light plant to their gas works.

Pascagoula—Ship-yards.—Mr. Blanchard is erecting new ways at his ship-yard.

Pascagoula—Ways and Wharves.—The Phoenix Ship-yard, Marine Ways & Wharves Co. has been chartered at Scranton and will build ways and wharves at Pascagoula.

NORTH CAROLINA.

Charlotte—Furniture Factory.—Elliott & Marsh will put a larger engine and boiler in their furniture factory, and sand-papering machinery later.

Concord—Railroad.—It is proposed to build a railroad from Concord to Albemarle under a charter granted to a company in 1885.

Fayetteville—Railroad.—W. P. Fortune has contracted to grade 30 miles of the extension of the Cape Fear & Yadkin Valley Railroad to Wilmington, previously reported.

Goldsboro—Tile Works.—W. H. Griffin will add tile machinery to his brick works.

Huntersville—Saw Mill.—J. P. & J. A. Sossaman will rebuild their saw mill reported in this issue as burned.

Leaksville—Saw Mill and Tannery.—The Leaksville Tanning & Lumber Co., reported last week as chartered, have a saw mill in operation and will soon erect a tannery.

Lenoir—Telegraph Line.—Harper, Bernhardt & Co. will build a telegraph line to Patterson, and not a telephone line as stated last week.

Morganton—Cotton Factory.—E. F. Reid and others, reported last week as to build a cotton factory and as selecting a site, have organized as the Morganton Cotton Manufacturing Co., with a capital stock of \$50,000. The capacity of the mill is to be 2,000 spindles and work is to be commenced at once. Mr. Reid is secretary and treasurer.

Reidsville—Bucket Factory.—The Iron-bound Bucket Co. have built an addition to their factory and put in a new engine and 60 horse-power boiler. They are thinking of adding another story to their factory.

Salem—Mill and Gin.—J. F. Schaffner will rebuild his mill and gin reported last week as burned.

Salisbury—Brick, Tile and Pipe Works.—M. C. Quinn and others have formed a company to manufacture brick, tile, sewer pipe, &c.

Wadesboro—Brick yard.—A. G. Bruner has started a brick-yard.

Wilmington—Broom and Brush Factory.—James E. Dye, of Cincinnati, O., has been prospecting with a view to moving his broom and brush factory to Wilmington.

Winston—Church.—Miller Bros. have been awarded the contract to build the church for the Presbyterians, previously mentioned. The cost will be about \$15,000.

SOUTH CAROLINA.

Anderson—Flour Mill.—Some of the stockholders of the Anderson Oil & Fertilizing Co. have been thinking of building the flour mill reported last week, but probably nothing will be done.

Anderson—Hotel.—The Anderson Hotel Co., capital stock \$40,000, has been organized to build a hotel. F. T. Wilhite is president and W. F. Cox, secretary and treasurer. A site will be secured at once.

Charleston—Hotel.—A company is being organized by F. W. Wagener & Co., George M. Williams and others to build a large hotel to cost about \$1,000,000. \$140,000 or more have been subscribed.

Charleston.—The Acme Building & Loan Association has been formed by W. G. Harvey, Sr., and others.

Columbia—Canal.—The trustees of the Columbia canal will shortly advertise for proposals for completing the canal. C. J. Iredell can give information.

Gaffney City—Cotton Factory.—D. Baker is agitating the building of a cotton factory.

Georgetown—Warehouse.—L. S. Ehrich contemplates building a brick warehouse.

Greenville—Gas Works.—Asbury & Son are quadrupling the capacity of their gas

works. They are erecting the buildings for their electric light plant previously mentioned as to be added to their gas works.

Greenville—Fertilizer Works.—A. B. Rose, of Charleston; Julius H. Heyward, O. P. Mills and others are now organizing the company to build the fertilizer works previously mentioned. The capital stock will be \$100,000, and the capacity of the works 15,000 tons yearly. A site has been selected.

Laurens—Wagon Factory.—M. L. Gray, J. H. Sullivan, L. S. Fuller, W. L. Boyd and others have organized a \$10,000 stock company to establish a wagon factory. They have secured a site for their factory, and will soon begin work.

Little Rock—Oil Mill.—James W. Dillon, Thomas A. Dillon, Robert P. Hamer, W. H. Steed, Samuel Thompson and Duncan McLaurin have chartered the Dillon Cottonseed Oil Mills, capital stock \$20,000, to build a mill near Little Rock.

Newbury—Brick-yard.—J. P. & T. C. Pool have added some new machinery to their brick-yard.

Walterboro—Planing Mill.—Stokes & Westcoat, reported last week as to build a lumber mill, are adding machinery to their saw mill.

TENNESSEE.

Blountsville.—A. D. Reynolds and others have chartered the Ashley's Bromine & Arsenic Spring Co., of Sullivan county.

Carter's Furnace—Saw Mill.—A saw mill has been erected near Carter's Furnace.

Carthage.—A company is being formed to purchase about 1,000 acres of land and build up a town. It is stated that if the company is organized one or more manufacturing enterprises will be established.

Chattanooga—Bed Factory.—The Star Spring Bed Manufacturing Co. have started a factory.

Chattanooga.—A company is being formed to cultivate and manufacture silk.

Columbia—Elevator.—McLemore Bros., reported last week as contemplating building a grain elevator to cost about \$15,000, have organized the Columbia Elevator Co., with a capital stock of \$15,000. Work will be commenced at once.

Columbia—Carriage Factory.—William Buchanan is building an addition to his carriage factory.

Concord—Marble Quarry.—The Bond Marble Co. will put in some new machinery at their quarries.

Cookeville—Lumber Mill.—L. B. Hill, George H. Morgan, J. W. Stafford, John G. Duke, J. C. Hamilton and others have chartered the Pennsylvania Real Estate & Lumber Co., to deal in real estate, manufacture lumber, &c. They will, it is stated, build a lumber mill soon.

Dresden—Spoke Factory.—G. A. Dowd & Co. will start a spoke factory. They will probably add the manufacture of hubs and handles afterwards.

Dunlap—Saw Mill.—Hill & Co. have purchased machinery to erect a 30 horse-power saw mill.

Dyersburg—Flour Mill.—A flour mill with a capacity of about 75 barrels daily is reported to be erected soon. W. D. Roberts & Co. can give particulars.

Greenbrier—Saw Mill.—Mr. Swift has built a new saw mill.

Greenville—Wagon Factory.—Lamon Sons & Co. contemplate moving their wagon factory to another location.

Greenville—Woolen Mill.—The Greenville Woolen Mills will, it is stated, put in some additional machinery in the fall.

Hendersonville—Creamery.—Horatio Berry, J. W. Fite and others will start a creamery and corn mill.

Johnson City—Planing Mill.—The planing mill of Stratton & Stratton will be enlarged shortly.

Johnson City—Buildings.—G. C. Harris has commenced work on two iron front brick buildings to cost \$8,000.

Knoxville—Sash, Door and Blind Factory.—A new and larger sash, door and blind factory is being built by George Broome.

Knoxville—Marble Quarries.—The Hercules Marble Co., previously reported, have commenced operations. Thomas W. Keller is president.

Lawrenceburg—Spoke and Hub Factory. It is reported that a large hub and spoke factory will be established.

Lynnville—Corn Mill.—C. Fitzpatrick is erecting a corn mill.

Memphis—Saw Mill.—The Memphis Hardwood Lumber Co. have completed their saw mill reported last week. The capacity is about 30 M feet daily.

Nashville—Lands.—It is reported that A. J. Cooper and William Armstrong, of Memphis, and others have formed a company to purchase about 160,000 acres of lands.

Nashville—Creosoted Brick Works.—The Nashville Roofing & Paving Co. will erect a new plant for manufacturing creosoted brick at a cost of \$6,000.

Nashville—Timber Lands.—Edgar Jones, Henry Sperry, Byrd Douglas and Theodore Plummer have chartered the Bradford Timber & Land Co., to develop timber lands near Jacksonville, Fla.

Obion—Iron Foundry.—An iron foundry is reported to be started.

Wartrace—Creamery.—Robin Jones, of Nashville, will probably start a creamery.

Winchester—Flour Mill.—W. Ransom contemplates erecting a roller flouring mill with a daily capacity of from 25 to 50 barrels.

TEXAS.

Abilene—Church.—The Catholics will shortly commence building a church.

Abilene—Elevator.—M. Marx contemplates building a grain elevator.

Albany.—Well.—Proposals for sinking an artesian well will be received until August 13 by G. M. Smith. Bidders will state the size of pipe from 3 to 6 inches, and the cost per foot of each size.

Austin—Lumber.—The Orange Lumber Co., capital stock \$20,000, has been chartered by M. T. Jones, John M. Kennon and A. P. Sharpe, Jr.

Cisco—Flour Mill.—The Farmers' Alliance have purchased the Cisco Roller Mill.

Corsicana—Flour Mill.—The Texas Mill & Elevator Co., lately reported as contemplating increasing the capacity of their flour mill from 200 to 300 barrels daily, are now putting in the additional machinery.

Dallas—Furniture Factory.—There are prospects of a furniture factory being started soon.

Dallas—Electric Light Plant.—The Queen City Electric Light Co. have asked for permit to erect a plant. The capacity contemplated is about 200 arc lights and 3,250 incandescent lights.

Dallas—Irrigation, &c.—E. O. Darley, of Fort Worth; C. H. Cooper, J. R. Johnson and G. W. Crutcher, of Dallas, and others have formed the Marienfeld Irrigation Co., capital stock \$25,000, to irrigate and cultivate lands, operate canning and evaporating factories, etc. They have purchased a farm in Martin county, and are negotiating to have an artesian well sunk.

Dallas—Electric Light Plant.—The Dallas Electric Light, Power & Manufacturing Co., reported last week as to spend about \$40,000 in enlarging and improving their plant, contemplate putting in a plant of four times the capacity of their present plant.

Dallas—Gineries.—R. S. Munger will, it is reported, organize a stock company to erect several gineries at different places east of the Mississippi river.

Dallas—Picker Factory.—William J. Keller, John H. Lawrence, Emory Hall and L. W. Hadley have chartered the Dallas Cotton Picker Manufacturing Co., capital stock \$200,000.

El Paso—Iron Mine.—C. C. Fitzgerald has leased the Eureka iron ore mine near El Paso, and will develop.

Ennis.—The Ennis Building & Loan Association has been chartered.

Fort Worth.—The Young Men's Building & Loan Association, capital stock \$200,000, has been organized with George Strong as president.

Fort Worth—Refrigerating Plant, &c.—Messrs. Maxey, Roche, Casey and others have, it is stated, completed arrangements for establishing a large slaughter-house and refrigerator plant. They will probably make use of a plant already erected.

Fort Worth—Refrigerator Factory.—A company is being organized to manufacture refrigerators.

Fort Worth—Machine Shops.—The Fort Worth & Denver Railroad Co. are enlarging their machine shops.

Galveston—Machine Shop.—Jesse Astall has lately added some new machinery to his machine shop.

Hawkins—Saw and Planing Mill.—H. C. Ferrell & Co. have lately erected a saw and planing mill.

Hawkins—Saw and Planing Mill.—T. M. Alred has lately erected a saw mill about four miles from Hawkins.

Houston—School.—The contract to erect the school building previously mentioned has been awarded to A. C. Morin at \$9,537.

Houston—Flour and Corn Mill, &c.—A company is being organized to build a flour and corn mill and a grain elevator. The capacity proposed is 250 barrels flour, 310 barrels meal and grits, and 100 barrels chops. The capital stock will be about \$65,000.

Lawndale—Furniture Factory.—A furniture factory will, it is stated, be started by Borde & Bellamy.

Milford—School.—A school building is to be erected at a cost of \$5,000.

Orange—Water Works.—Lutcher & Moore, reported last week as enlarging their planing mill, putting in new machinery, etc., will build a system of water works, and want to purchase pumps, water pipes and fire-plugs.

Palestine—School.—Proposals for erecting a school building will be received until June 14 by W. M. Lacy.

Palestine—Asphalt Works.—R. H. Byrnes, of Galveston, mentioned last week as to develop asphalt deposits, will, it is stated, erect works for manufacturing asphalt.

Paris—Railroad.—The Paris, Choctaw & Little Rock Railroad Co., lately mentioned as chartered to build a railroad from Paris to Little Rock, Ark., will soon commence work on surveys.

Rockland—Planing Mill.—W. A. Davis will add planing machinery to his saw mill.

Rockland—Planing Mill.—The Rockland Lumber Co. are arranging to add a planing mill to their saw mill.

Rockland—Lumber Mill.—D. J. Williams & Co. will add some machinery to their lumber mill about six miles from Rockland.

Rockport—Hotel.—J. B. Simpson, of Dallas, and others are preparing to erect the \$50,000 hotel lately mentioned.

San Antonio—Water Works.—The San Antonio Water Co. will improve and extend their works. They have purchased the additional mains.

Sherman—Electric Light Plant.—The Sherman Electric Light Co. will, it is stated, greatly enlarge their plant.

Spring Creek—Planing Mill.—R. Talbot has lately added planing machinery to his saw mill with a daily capacity of 30 M feet.

Temple—The Temple Building & Investment Co., capital stock \$50,000, has been incorporated by C. L. McKy, S. H. Swink, J. C. Merrick and others.

Tyler.—Engines.—E. S. Harper and P. J. Plunket contemplate starting the manufacture of engines.

Waco.—J. W. Mann, C. Kollar and others have chartered the Mann Town Co., capital stock \$100,000.

Waco—Railroad.—Bids for grading the Waco & Brazos Railroad from Waco to Cameron, previously reported, will be received by William Cameron.

Woodville—Lumber Mill.—R. W. Snelling & Co. are about adding some machinery to their lumber mill.

VIRGINIA.

Alexandria.—The Lagayra Cable Co. has been chartered.

Alexandria.—\$15,000 will be spent in improving the streets. The mayor can give information.

Alexandria—Railroad.—The Falls Church & Potomac Railroad Co., previously reported, have organized with R. Morrison as president; N. F. Graham, vice-president; S. Duryea, secretary, and E. A. Greenough, treasurer. Their road will be about six miles long.

Alexandria—Mining.—The Treasury Consolidated Mining Co., capital stock \$2,500,000, has been chartered with W. F. Rosecrans, of Washington, D. C., as president; H. L. White, of Boston, Mass., vice-president; L. W. Reid, Alexandria, secretary, and W. G. Raines, Rochester, N. Y., treasurer.

Columbia Furnace—Iron Furnaces.—The Columbia charcoal furnaces, the sale of which to George W. Pearson, of Trenton, N. J., was reported last week as confirmed, will be put in operation by him.

Crewe—Hotel.—A summer hotel is reported to be built.

Farmville—Brick-yard.—George W. Davis has started a brick-yard for manufacturing by hand, and is thinking of purchasing steam-power machinery.

Fincastle—Woolen Mill.—Ammen & Pettigrew, previously reported as to rebuild their burned woolen mill, will rebuild on a larger scale.

Lovely Mount—Bridge.—The Radford Land & Improvement Co. and the town authorities will build a bridge.

Lynchburg—Land.—The Lynchburg Land Co. has been organized with John D. Holt as president, and R. Slaughter, treasurer and manager. The company is privileged to engage in manufacturing.

Lynchburg—Buildings.—John D. Langhorne will erect two large buildings if a certain piece of ground can be purchased.

Lynchburg—Gun Factory.—It is reported that the government officials are prospecting in Virginia for a suitable place to establish a gun foundry.

Lynchburg—Can Factory.—Dinguid & Moon, lately reported as starting a can factory, contemplate doubling their capacity.

Mineola—Flour, Corn and Saw Mill.—James Anderson, lately reported as building a mill, has erected a saw mill and is building a corn and flour mill.

Norfolk—Church.—The McKendree M. E. Church, previously reported as contemplating building a new edifice, have purchased a site at Claiborne and Clay streets to build a brick church capable of seating 600 persons. It is to be completed within 12 months.

Norfolk—Planing Mill, &c.—The Tunis Lumber Co. have nearly completed their large planing mill previously reported. They will operate a box factory in connection with the mill.

Richmond—Electrical Railroad.—The Manchester Railway & Improvement Co., of Manchester, have received permit to build an electrical railroad on certain streets.

Roanoke—Railroad.—F. J. Chapman & Co., of Salem, have contracted to build for the Craig Co., of New Castle, a narrow gauge railroad from Roanoke to New Castle. They state that they will commence work within 30 days.

Rocky Mount—Planing and Grist Mills.—The Rocky Mount Milling & Manufacturing Co. will probably rebuild their planing and grist mills, reported last week as burned.

Round Hill—Creamery.—A creamery has recently been started.

Sandidges—Bark Extract Works.—B. B. Campbell contemplates establishing bark extract works, and wants information as to the cost of machinery; also information in regard to the business.

Wheatland—Creamery.—Robert Wright will start a creamery.

Wytheville—Timber Lands.—Ohio parties have purchased timber lands and will develop. A. E. Walker can give information.

WEST VIRGINIA.

Charleston—Church.—The contract to erect the church for the Presbyterians, previously mentioned, has been awarded to Higgins & Calderwood. The cost will be about \$30,000.

Charlestown—Water Works.—B. C. Washington is organizing a company to build water works.

Clarksburg—Hotel and Opera-house.—A hotel and an opera-house are reported to be erected soon.

Guyandotte—Tub and Bucket Factory.—A tub and bucket factory will be established soon.

Martinsburg.—The Berkley County Building Association has been chartered by George W. Buxton and others.

Mayberry—Coal Mining, &c.—Stewart M. Buck, of Hampton; H. M. Sill, H. A. Dubring, J. S. Clark and A. C. Denniston, of Philadelphia, Pa., have chartered the Norfolk Coal & Coke Co. to mine coal, iron ore, etc., manufacture coke, iron, etc., develop quarries, etc. The capital stock is limited to \$500,000.

BURNED.

Dunnsville, Va.—The packing factory of E. W. Kriett damaged by a boiler explosion.

Gallatin, Tenn.—The broom factory of James Brandon.

Hillsboro, Texas.—The mill and gin of N. A. Haley destroyed by a storm.

Huntersville, N. C.—The saw mill of J. R. & J. A. Sossaman. Will be rebuilt.

Lovesville, N. C.—The distillery of Mr. Summey, near Lovesville.

New Orleans, La.—The sausage factory of Henry Wehman.

Memphis, Tenn.—The works of the Speers Gin & Manufacturing Co. damaged about \$2,000 by fire.

To Manufacture Iron Goods.

DALLAS, TEXAS, May 31, 1888.

Editor Manufacturers' Record:

We are building a factory of brick, size 100x100 feet, for the purpose of manufacturing metal shingles, on which we have a patent, the invention of H. W. Harry, member of our firm. We will continue the manufacture of galvanized iron cornice and heavy sheet iron work, shutters, and smokestacks. Will work about 40 hands to start with, and if necessary will increase capacity. HARRY BROS.

Saw Mill and Tannery.

LEAKSVILLE, N. C., June 1, 1888.

Editor Manufacturers' Record:

The Leaksville Tanning & Lumber Co. was incorporated May 12, 1888. The saw mill is in operation, and we will soon have the tannery up in connection with it.

P. REYNOLDS, Sec. and Treas.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will get all the information desired as to prices, etc.

Bone Mill.—W. C. White, Danville, Va., wants to purchase a good bone mill.

Brick Machinery.—George W. Davis, Farmville, Va., will probably want brick machinery.

Brick Machinery.—A. R. Butcher, Eustis, Fla., wants to purchase a small tile or brick machine, second-hand, either stiff clay or steam-dry process.

Broom Machinery.—A. B. Fitts, Carrollton, Ga., wants to correspond with parties having broom machinery for sale.

Canning Machinery, &c.—J. F. Hurley, Grenada, Miss., wants to purchase a 25 horse-power engine and boiler and other machinery for a canning factory to put up 5,000 cans per day and machinery for manufacturing cans with a daily capacity of from 5,000 to 6,000 cans. Parties writing them are requested to state lowest prices on goods.

Cotton Machinery.—The West Point Manufacturing Co., West Point, Ga., wants to purchase 3,000 spindles and 76 looms.

Cotton Machinery.—Spinning, twisting and carding machinery is wanted by the Falls Manufacturing Co., Allen's Factory, Ala.

Dummy Railroad.—J. W. McMillan, Millidgeville, Ga., wants to correspond with manufacturers of equipments for dummy railroads. The road will be three miles long.

Elevator.—Proposals for putting an elevator in the custom-house at Nashville, Tenn., will be received until June 20 by John T. Hillsman, custodian.

Handle and spoke machinery is wanted by O. W. Hopkins, Grahamsville, Fla.

Iron Fencing.—R. L. O'Neal, Chattanooga, Tenn., wants price-lists and catalogues of iron fencing.

Iron Planer.—The Taper-Sleeve Pulley Works, Erie, Pa., want prices on a new or good second-hand iron planer to plane 30 or 32 inch wide and 6 or 8 feet wide.

Iron Rails.—Merwin McKaig, Cumberland, Md., wants to purchase one or two car-loads of second hand 16-lb. iron T rails.

Laundry Machinery.—J. F. Gurley, Grenada, Miss., wants to purchase machine for a steam laundry for a town of 3,000 inhabitants.

Milling Machine.—The West Point Foundry Co., West Point, Ga., want to purchase a milling machine.

Planing Mill Machinery.—The Malvern Lumber Co., Malvern, Ark., want to purchase a 75 horse-power engine and boilers to match, inside molder, surfacer, sizer, self-feed rip tables, two saw trimmers, large capacity steam pump, shafting, belting, etc.

Rails, &c.—W. A. Burgess, Greensboro, N. C., wants prices on rails, splice bars, bolts and nuts and spikes for about six miles of track. Rails to be about 35 lbs. per yard. Second-hand rails that are in good order would be satisfactory.

Rope Wheels.—Proposals for furnishing the navy-yard at Washington, D. C., with 44 rope wheels will be received until June 19 by James Fulton, paymaster United States navy.

Rope Machinery.—Henry Warren & Sons, Oregon, Tenn., want to purchase rope machinery.

Saw and Shingle Machinery.—C. C. Buchanan, Waycross, Ga., wants estimates on machinery for a saw and shingle mill.

Saw Mill.—Huffman Bros., Williamsburg, Ky., want price-lists of machinery for a band saw mill.

Stoves, &c.—Proposals for furnishing the new building for No. 8 primary school at Baltimore, Md., with 14 new stoves and necessary pipe, zinc, etc., and for one brick-set furnace for No. 7 colored school will be received until June 11 by Henry M. Cowles, at City Hall.

Tube-cutting Machine.—The Merrill-Stevens Engineering Co., Jacksonville, Fla., wants to purchase a machine for cutting off boiler tubes from 1 1/4 to 4 inches in diameter if such a machine is made.

Water Works.—The mayor and city council of Natchez, Miss., will probably want to contract for water works for their city, the contract with Samuel R. Bullock & Co., of New York, having been cancelled.

Wood-working Machinery.—Catalogues and price-lists of wood-working machinery are wanted by Lederle & Cook, P. O. box 518, Atlanta, Ga.

Wood working machinery is wanted by B. F. Stidham, Flowery Branch, Ga. Second-hand machinery, if cheap, will do.

Wood-working Machinery.—H. C. Williams & Co., Duke, Ga., want to buy planing, stove, lath and shingle machinery.

Wood Palp.—J. B. Liles & Co., Spartanburg, S. C., want information about wood pulp and wood-pulp machinery.

Canning and Evaporating Factories.

WEST PLAINS, ARK., June 1, 1888.

Editor Manufacturers' Record:

Batesville, the capital town of Independence county, has organized a canning and evaporating company, capital stock \$25,000. Plummer & Son, of Leavenworth, Kansas, has the contract to put in an evaporator, capacity of 800 bushels per day, and canning plant next fall. Berryville, the capital of Carroll county, has also formed a canning and evaporating company, capital stock \$25,000. Plummer & Son, of Leavenworth, Kansas, has the contract to put in an evaporator plant this season and canning plant next.

N. S. STORRS.

Cotton Factory Projected.

MONROE, LA., May 30, 1888.

Editor Manufacturers' Record:

It is contemplated building a cotton factory at this place. About half the stock necessary has been taken.

J. G.

Will Erect a Larger Plant.

DALLAS, TEXAS, May 29, 1888.

Editor Manufacturers' Record:

We intend placing a new outfit here, with four times the present plant.

DALLAS ELEC. LT. & MFG. CO.

Timber Lands to be Developed.

WYTHEVILLE, VA., May 29, 1888.

Editor Manufacturers' Record:

The lands recently surveyed near this place have been purchased by an Ohio company, who will shortly commence cutting and shipping timber off them on a large scale.

A. E. WALKER.

Additional Machinery.

RALEIGH, N. C., June 2, 1888.

Editor Manufacturers' Record:

We have just added to our cotton mill one Kilson F. n: lapper, 14 Whitehead and Atherton cards, 1,440 Sawyer spindles and necessary intermediate machinery, giving us 3,980 spindles and 153 looms.

G. ROSENTHAL, Sec. and Treas.

Work Soon to be Commenced on Two More Furnaces at Steelton, Md.

STEELTON, PA., June 1, 1888.

Editor Manufacturers' Record:

We expect to begin work on another pair of blast furnaces at Steelton, Md., within a few months.

PENNSYLVANIA STEEL CO.

Contemplate Building Elevator.

COLUMBIA, TENN., May 28, 1888.

Editor Manufacturers' Record:

We contemplate building an elevator to hold 150,000 bushels of grain. It will be an incorporated company. All our manufacturing enterprises in successful operation. The Columbia Cotton Factory paid 10 per cent. dividend; room for another at this point.

H. A. McLEMORE & BRO.

Building Planing Mill.

MALVERN, ARK., May 29, 1888.

Editor Manufacturers' Record:

We are erecting a planing mill and two dry kilns in addition to our present plant, consisting of saw and planing mill and three dry kilns. Will need a 75 horse-power engine and boilers to match, inside molder, sizer, surfacer, self feed rip tables, two saw trimmers, large capacity steam pump, shafting, belting, &c.

MALVERN LUMBER CO.

Will Enlarge Furniture Factory.

FLOWERY BRANCH, GA., May 30, 1888.

Editor Manufacturers' Record:

I am now making preparations to enlarge my business. Will put in a lot of machinery for manufacturing bedsteads, &c., for the trade. Am now looking out for wood-working machinery. Will buy good second hand machines if prices are low.

B. F. STIDHAM.

Iron Furnaces Projected at Paducah.

PADUCAH, KY., May 31, 1888.

Editor Manufacturers' Record:

A company is forming at this place to build a charcoal iron furnace. W. M. Jones, of Paris, Tenn., is at the head of the enterprise. A company is formed and subscriptions are being received for the erection of the Peninsular (coke) furnace and pipe works. The Paducah Iron Co. (coke) is clearing ground for the erection of a 100-ton furnace to be completed by January 1st. The plant of the Scotia furnace, of Missouri, will be used.

CLINT B. LEIGH.

Enlarging Flour Mill.

CORSICANA, TEXAS, June 1, 1888.

Editor Manufacturers' Record:

We are putting in sufficient machinery to increase our capacity 100 brls, making then a capacity of 900 brls. daily. Also a new engine, Wright & Adams make. Will be ready to commence July 1.

TEXAS MILL & E. CO.

MINEOLA, VA., May 30, 1888.

Editor Manufacturers' Record:

My saw mill is in operation, and corn mill will be in a few days. I expect to get my wheat mill ready for the present wheat crop.

JAS. ANDERSON.

Saw and Planing Mills.

HAWKINS, TEXAS, May 27, 1888.

Editor Manufacturers' Record:

We have two new saw and planing mills, one by H. C. Ferrell & Co. at this place, and the other by T. M. Alfred, four miles north.

B. F. ALLEN.

Contracted to Build Bridge.

ATLANTA, GA., May 31, 1888.

Editor Manufacturers' Record:

The contract for masonry and superstructure of Yazoo river bridge on Georgia Pacific Railroad has been awarded to me.

A. V. GUDE.

Barrel Factory.

DYERSBURG, TENN., May 30, 1888.

Editor Manufacturers' Record:

We will have another barrel factory very soon. It will be started by Geo. B. Smith & Co.

MATTIE V. BORUM.

To Build Dummy Railroad.

ANNISTON, ALA., May 29, 1888.

Editor Manufacturers' Record:

We expect to begin work inside 60 days on our dummy line. Will be completed within six months. Will run to Aderhold's Park, a resort where we will build a hotel, lake, pavilion and a number of cottages.

ADERHOLD BROS.

COVINGTON, KY., May 30, 1888.

Editor Manufacturers' Record:

Our board has just determined to erect a new colored school building (brick) to cost about \$12,000 to \$15,000, at once.

HENRY MYERS.

DRESDEN, TENN., May 29, 1888.

Editor Manufacturers' Record:

We will start a spoke factory with three lathes, and perhaps make hubs and handles after awhile. We are now building and receiving the spokes in the rough.

G. A. DOWD & CO.

To Build Railroad.

UNIONTOWN, ALA., May 29, 1888.

Editor Manufacturers' Record:

Messrs. T. M. Corcoran, Carl Ernst and myself were commissioned by the Secretary of State to open books of subscription preparatory to getting charter for the Uniontown, Newbern & Dayton Railroad. We are meeting with encouragement, and hope within the next 60 days to have the road chartered and under fair way to construction.

The city of Uniontown is desirous of receiving bids for an artesian well 1,000 to 2,000 feet deep.

J. C. WELCH.

LOUISVILLE, KY., June 2, 1888.

Editor Manufacturers' Record:

The Elkhorn Coking Coal Co. has just been organized by Attila Cox, R. T. Coleman, Jno. C. Strother and S. S. Bush, and have purchased a body of coal and timber land in Wolfe and Lee counties, Ky., on the surveyed route of the Kentucky Union Railroad. Active developments will not be commenced until the railroad is built to the property, which will probably be in about 12 months.

ATTILLA COX.

Building Furniture Factory.

AUSTIN, TEXAS, May 29, 1888.

Editor Manufacturers' Record:

We are erecting a building, 50 feet front by 160 feet deep, three stories high, with elevators, steam and all modern conveniences. Contract calls for the completion of it by the 30th of August, 1888.

M. KREHLE CO.

ORANGE, TEXAS, June 1, 1888.

Editor Manufacturers' Record:

We expect to put in a large system of water works through our lumber yard, covering between 30 and 40 acres. We shall want pumps, water pipe and fire-plugs. We have not yet made any purchases, and are open for tenders on same.

LUTHER & MOORE.

DR. H. M. CALDWELL, the president of the Elyton Land Co., of Birmingham, has taken another important step, which will prove of great value to that place. During the excitement in real estate a year or more ago many people, carried away by speculative tendencies, bought very heavily of land, the deferred payments on which they are not able to meet at present. Rather than to press the payment of these notes the land company, acting under President Caldwell's advice, have decided to make very easy terms, deciding each case upon its merits, and extending the notes of those who cannot pay even a part for several years, thus enabling every land purchaser to hold his land without trouble until business becomes more active. This action of President Caldwell will doubtless meet with universal commendation.

THE decision of the Secretary of the Treasury, announced a few days ago, that the purchase of the unoffered public lands by the Woodstock Iron Co. under the provisions of section 1 of the Act of June 15, 1880, was illegal, and directing the cancellation of all unpatented entries of the said company, will not, we are informed, in any way affect that company. All the public lands acquired by the Woodstock Co. were duly patented, except in one or two minor cases, which were of so little importance that no attention was given to them, and it is only these unpatented lands to which the decision refers.

A Southern Timber Purchase.

W. C. Heyser, Walter Heyser, W. R. Reynolds and W. M. Thompson, of Jackson, Mich., have purchased of Loomis & Wheeler, of Chattanooga, Tenn., a big lumber plant just across the North Carolina line, in Swain and Graham counties, including 100,000,000 feet of standing timber, a steam tug on the Tennessee river, and a sawmill on the Chattanooga river, and will operate there extensively in the immediate future. Speaking of this investment, W. C. Heyser, who closed up the transaction last week, said: "There are 46,000 trees on the tract that will average over two feet each at the stump—anything smaller we do not have to take; of these trees, 39,000 are whitewood, the remainder white pine. We got one of the finest booms in that country, a steam tug for towing the logs and lumber, and a sawmill at Chattanooga, with a capacity of 30,000 feet per day. We shall remodel the mill, increasing the amount to 75,000 every twenty-four hours. We get possession of the land at once, but not of the mill, boom and tug till August 1. I shall attend to the work down there, in connection with our other tract, which is about thirty miles from our new purchase. The timber is magnificent, measuring from two to eight feet in diameter. We do not purchase the land, and no more of the timber than of the size mentioned. It's close to the river, and should cut a big pile of timber and be profitable. I don't think the firm would like to have said what it cost us, but it's a big amount of money. I go there immediately to begin business."—The Timberman.

THE MANUFACTURERS' RECORD is the central repository of industrial information.—Citizens, Palaski, Tenn.

Erected Saw Mill.

MEMPHIS, TENN., June 2, 1888.

Editor Manufacturers' Record:

We have our mill just completed. Building is 36x80 feet; engine room, 16x30 feet. Mill is a Smith, Myers & Schnier outfit from Cincinnati, Ohio, and is one of their improved band mills, with Prescott's steam feed. Capacity is: on ash, 25,000 feet; walnut, 20,000 to 25,000 feet, and poplar, 30,000 to 40,000 feet.

MEMPHIS HARDWOOD LUMBER CO.

REIDSVILLE, N. C., June 2, 1888.

Editor Manufacturers' Record:

We have added to our factory 40 feet for drying purposes, and have put in new engine and 60 horse-power boiler, and we are thinking of adding another story to our factory, but have not fully decided yet.

IRON BOUND BUCKET CO.

FLINT, MICH., May 31, 1888.

Editor Manufacturers' Record:

We have now under construction a stove and heading mill at Dyersburg, Tenn.

SMITH, WILSON & CO.

BIRDSVILLE, KY., May 29, 1888.

Editor Manufacturers' Record:

The Ohio River Coal & Improvement Co. has just organized, and work of mining is expected to begin in a few days.

J. B. TRAIL, Cor. Secy.

EVIDENCE is continually found in the columns of the Lumberman that the tendency of Southern timber holdings is toward few and large hands. A fresh illustration was furnished this week by the statements of a visitor in this city, who is purchasing agent for a large Eastern syndicate which is behind contemplated railroad enterprises, and is buying up all the timber it can get in certain Southern situations, preferably in Arkansas. The plan is to go ahead on the line of a road expected to be built and corner all the timber that is purchasable. When the agent made an inquiry as to the limit of the game to be played he was told there was practically none—the syndicate had \$5,000,000 to invest if necessary. Therefore he started out with the knowledge that he had full swing and money was no object. In a short time he has bought 100,000 acres of Arkansas timber land at 75 cents and \$1.25 and as the syndicate is doing business to make money, he offers to sell any amount at \$5 an acre, and then, of course, he would lay low for more that could be bought for a song. All this maneuvering is being done as quietly as possible, as it is not desired that it should get into the newspapers.—Northwestern Lumberman.

MESSES. E. VAN WINKLE & Co., of Atlanta, Ga., are very extensive manufacturers of cotton-seed oil machinery, ginning outfits, &c. The Troy (Ala.) correspondent of the Montgomery Advertiser, noting the presence of Mr. Van Winkle in that town, says: "He expects to be able to place two 50 horse-power engines and boilers, and six large gins, cotton and seed conveyors and some additional machinery for the oil mills lately bought from the Pike County Guano Co. Van Winkle & Co. placed all the machinery in these mills, and it has given entire satisfaction. They have a large manufactory in Dallas, Texas, turning out the same kind of machinery, which they sell in every Southern State. They use largely of Birmingham and Anniston iron; indeed, almost exclusively. They stated to your correspondent that there is no finer pig iron in the world than the Anniston iron."

J. F. HURLEY, Grenada, Miss., wants to employ a first-class practical man who understands processing can goods and who can take charge of and run a factory. He states good wages will be paid to the right man, with proper references, &c.

To Improve Oil Mill.

ALBANY, GA., June 3, 1888.

Editor Manufacturers' Record:

We will add an electric light plant to our oil mill; it will be Edison's incandescent light. We will also add other improvements to oil mill and increase our ginners. ALBANY OIL & REFINING CO.

To Build 10,000-spindle Mill.

SENECA, S. C., May 29, 1888.

Editor Manufacturers' Record:

We propose to build a 10,000-spindle mill with a capital of \$200,000, about \$60,000 of which has been subscribed at home. Plans are fixed.

L. W. JORDAN.

Enlarging Gas Works.

GREENVILLE, S. C., June 1, 1888.

Editor Manufacturers' Record:

We are erecting buildings, steam plant, etc., to install an 18 light Thomson-Houston arc plant. Will be in operation by September 1. We are also quadrupling our gas capacity.

ASBURY & SON.

Dummy Railroad to be Built.

MILLEDGEVILLE, GA., June 4, 1888.

Editor Manufacturers' Record:

A company is being formed here to build a dummy railroad three miles in length. I would be pleased to be put in correspondence with manufacturers of such supplies as will be needed to build and equip the road.

J. W. McMILLAN.

CARROLLTON, GA., June 4, 1888.

Editor Manufacturers' Record:

The Carrollton Land & Improvement Co. are now fully organized with a capital stock of \$25,000, with Oscar Reese, president, and C. B. Simonton, secretary.

The East Carrollton Land Co., with Maj. J. H. West, president, has a paid in capital stock of \$50,000, and are now ready for operation.

Work will commence this week on the new Carrollton Hotel. E. G. Kramer is president of the company.

L. C. Mandevine is speaking of building a bank building this season.

Burns, West & Bass will soon commence the erection of a large two-story brick store, 50x90 feet.

The writer wants to correspond with parties having machinery for a broom factory for sale.

A. B. FITTS.

Cotton Yarns and Warps.

Single skeins:

6s to 10s	15 1/2 @ 16
12s to 20s	16 1/2 @ 17
20s to 25s	17 1/2 @ 18
25s to 30s	18 1/2 @ 19
30s to 35s	19 1/2 @ 20
35s to 40s	20 1/2 @ 21
40s to 45s	21 1/2 @ 22
45s to 50s	22 1/2 @ 23
50s to 55s	23 1/2 @ 24
55s to 60s	24 1/2 @ 25
60s to 65s	25 1/2 @ 26
65s to 70s	26 1/2 @ 27
70s to 75s	27 1/2 @ 28
75s to 80s	28 1/2 @ 29
80s to 85s	29 1/2 @ 30
85s to 90s	30 1/2 @ 31
90s to 95s	31 1/2 @ 32
95s to 100s	32 1/2 @ 33

Soft twist, single skeins:

6s to 10s	16 @ 16 1/2
12s to 20s	17 @ 17 1/2
20s to 25s	18 @ 18 1/2
25s to 30s	19 @ 19 1/2
30s to 35s	20 @ 20 1/2
35s to 40s	21 @ 21 1/2
40s to 45s	22 @ 22 1/2
45s to 50s	23 @ 23 1/2
50s to 55s	24 @ 24 1/2
55s to 60s	25 @ 25 1/2
60s to 65s	26 @ 26 1/2
65s to 70s	27 @ 27 1/2
70s to 75s	28 @ 28 1/2
75s to 80s	29 @ 29 1/2
80s to 85s	30 @ 30 1/2
85s to 90s	31 @ 31 1/2
90s to 95s	32 @ 32 1/2
95s to 100s	33 @ 33 1/2

Single chain warps:

10s	16 1/2 @ 17
12s	17 1/2 @ 18
14s	18 1/2 @ 19
16s	19 1/2 @ 20
18s	20 1/2 @ 21
20s	21 1/2 @ 22
22s	22 1/2 @ 23
24s	23 1/2 @ 24
26s	24 1/2 @ 25
28s	25 1/2 @ 26
30s	26 1/2 @ 27

Two-ply chain warps:

12s	17 @ 17 1/2
14s	18 @ 18 1/2
16s	19 @ 19 1/2
18s	20 @ 20 1/2
20s	21 @ 21 1/2
22s	22 @ 22 1/2
24s	23 @ 23 1/2
26s	24 @ 24 1/2
28s	25 @ 25 1/2
30s	26 @ 26 1/2

New York and Philadelphia quotations furnished by Buckingham & Paulson, 53 Leonard street, New York; 215 Chestnut street, Philadelphia, and 3 Exeter Place, Boston. JUNE 5, 1888.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD.

To Build Cotton Mill

MORGANTON, N. C., June 5, 1888.

Editor Manufacturers' Record:

We have organized the Morganton Cotton Manufacturing Co., and will begin work at once on our cotton factory. Capacity is to be 2,000 spindles; capital stock \$50,000. E. F. REID, Sec. and Treas.

C. R. MAKEPEACE & CO.
ARCHITECTS and MILL ENGINEERS
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woollen Mills.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS,
NEWBURYPORT, MASS.

PLANS AND SPECIFICATIONS FURNISHED FOR THE DESIGN, CONSTRUCTION, EQUIPMENT AND ORGANIZATION OF COTTON AND WOOLLEN MILLS.

WM. O. WEBBER,

88 Mason Building, Boston, Mass.

Measurement of Power

Mill and Consulting Engineer.

Expert in Patent Causes and Hydraulic Engineering.

SAN ANTONIO, TEXAS,

Is an excellent location for manufacturers in nearly every line. For investors, climate seekers and immigrants unsurpassed. An extra opportunity for Canning Factories. For descriptive pamphlet address L. M. GREGORY, Secy. Citizens' Association, SAN ANTONIO, TEXAS.

GREEN FOREST,
Rockbridge County, Va

Best location in the State for a Furnace. Vast beds of rich Buena-Vista iron are at hand. Coke at less than three dollars per ton. Eight acres for a site offered FREE on the S. V. R. and the R. & A. Railroad.

Best location for a Paper Mill. Supply of soft wood unlimited. Two acres FREE for a site.

Best location for a Woollen Mill. One acre FREE for a site. Large water power available. Write to

H. C. MOONAW.

West Point, Va.

A growing town. Property increasing in value. Factories invited. New enterprises exempt from taxation.

Splendidly located on York river.

Steamer lines to Europe, New York—Baltimore, &c.—

Oysters and fish in unlimited abundance. Surrounded by the great fruit and trucking country of Virginia. For any particulars desired, address,

E. WILKINSON, MAYOR.

PORTLAND CEMENT.

German and English Brands of Best Quality.

Send for tests and all particulars to
ERSKINE W. FISHER,
WELLES BUILDING, No. 18 Broadway, NEW YORK.

ELIAS EDMONDS,

Attorney at Law

SAN ANTONIO, TEXAS.

Makes the Litigation of Land Titles a specialty. Will also Lend Money for non-residents upon the best real estate security.

Are You Going to the Centennial Exposition at Cincinnati.

This remark seems to be the general expression heard every day on the streets in the cities and towns throughout the Ohio Valley and Central States. The C. H. & D. R. R., always alive to the interests of its patrons, give notice that extreme low rate tickets can be had over its road, and as this line has the finest equipment in the land and runs through cars to Cincinnati from Chicago, St. Louis, Detroit, Toledo, Indianapolis, Lima, Dayton, Springfield, Ills., and Keokuk, Iowa, and is known as the Great Through Car Line from and to Cincinnati, the traveling public will be properly taken care of by asking for tickets via this favorite line. Remember the dates—July 4th to October 27th, 1888—the place Cincinnati and the road C. H. & D.

Brown Ore Lands.

5,000 Acres Brown Hematite Iron Ore & Timber Lands for Sale.

We have for sale about 5,000 acres of Brown Hematite Iron Ore Lands. The ore on this property is practically inexhaustible. THOUSANDS OF TONS VISIBLE TO THE EYE. The quality is equal to any in the South, being low in phosphorus, and will average fully 56 per cent. Metallic Iron. We invite inspection and examination. It is situated about two miles from the main line of railroad, and with a branch built over a very feasible route two or two and a half miles in length, the ore can be placed on the cars at a cost of from 25 to 40 cents per ton. This property is also heavily timbered with Yellow Pine, and the water privileges unexcelled. Contracts can be made to supply thousands of tons of these ores to furnaces contiguous at prices ranging from one to one and a-half dollars per ton, f. o. b. at the mines. Apply to

REES & CAMFIELD,
Anniston, Ala.

Interesting to Travelers South.

The section of the South attracting by its wonderful development and prosperity the attention of the whole world is traversed by the Queen & Crescent Route, (Cincinnati Southern and Associate Roads) Express trains, the fastest in the South, leave Cincinnati daily at 7:55 A. M. and 8:00 P. M. for Chattanooga, Birmingham, Atlanta, Decatur, Gadsden, Tuscaloosa, etc. When going South, do not fail to procure from your nearest agent tickets which read via Cincinnati and the Queen & Crescent Route. Inquiries promptly responded to by H. Colbran, General Passenger Agent, Cincinnati.

CHEAP FARMING LANDS SOUTH

It is a recognized fact that the cheapest farming lands in America to day are in the South, and men of much or moderate means looking for real estate investments, or permanent homes, should not fail to visit the following points, where so many northern people are now settling, viz: Jackson, Tennessee; Aberdeen and Jackson, Mississippi; Hammond, Crowley, Jennings, Welsh and Lake Charles, Louisiana. Round-trip tourist tickets, limited to June 1st, 1888, with stop over privileges south of Cairo, Illinois, are on sale to New Orleans, Jennings and Lake Charles. For rates apply to nearest ticket agent, and be sure your tickets read via the Illinois Central Railroad from Chicago or St. Louis. For pamphlet entitled "Southern Home-Seeker's Guide," and circulars concerning the above named points, address the undersigned, at Manchester, Iowa.

J. F. MERRY.
Gen. West. Pass. Agt.

STEEL RAILS

COMPLETE OUT-FIT FOR
Logging, Mining and Plantation

RAIL AND TRAM ROADS.
Light Sections Rails and Spikes in stock.
Locomotives, Logging Cars, etc.
NEW AND SECOND HAND.
HUMPHREYS & SAYCE,
10 WALL ST., NEW YORK.

FOR SALE. Railway Equipment.

14 Excursion Cars, in good repair, repainted Pullman, color and lettered to suit. Nearly immediate delivery.
16 Passenger Cars, all that remain of 70, on hand beginning of season.
Locomotives, entirely rebuilt, good as new. We have Passenger, Freight, Mogul, Switching and Motor Patterns for immediate delivery.
Freight Equipment of standard and narrow gauge, in great variety.

NEW YORK EQUIPMENT COM'Y
10 WALL STREET.

JAS. IRVING, JOS. D. MITCHELL, L. V. WALKLEY,
President, Vice-Pres. and Treas. Secretary.

Receiver's Sale.

On July 5th, 1888, we will sell at auction all the assets of the North Carolina Millstone Company, formerly doing business at Parkwood, Moore county, N. C., including large tracts of finely timbered and good farming land, the quarry, shops, machinery, &c., from which are made the well known

"Moore County Grit Mills."

Also Saw Mill, Patent Roller Flouring Mills, Ice Machine, Machine Shops and Foundry, all complete and equipped with the best machinery; also large lot of machinery and machinery supplies and finished and unfinished mills. This sale offers a rare opportunity to parties desiring profitable investments in the South. For terms and information address

JOHN W. HINSDALE,
ERNEST HAYWOOD,
Receivers of the North Carolina Millstone Company,
RALVIGH, N. C.

FOR SALE.
Two and Three Box Roller Looms
In perfect running order.
Price \$25.00 F. O. B.
WM. WOOD & CO.
22d and Spring Garden, Philada., Pa.

Cotton and Woolen MACHINERY.

50 Crompton Fancy Cotton Looms, nearly new, 36 in. reed space, for 12 Harnesses, 4 boxes at one end, 1 at the other.

My Store Houses here have over 2 ACRES of floorage, which is covered with good machinery, including nearly full systems for Cotton and Woolen Mills.

JEREMIAH CLARK,

Lowell, Mass. Office, 108 Middle St.

Machinery for Sale.

Two 100 H. P. HORIZONTAL TUBULAR BOILERS, S. H.
Two 60 H. P. Horizontal Tubular Boilers, S. H.
Two 40 H. P. Horizontal Tubular Boilers, S. H.
One 60 H. P. Horizontal Tubular Boiler, new.
One 25 H. P. Horizontal Tubular Boiler, new.
One 70 H. P. LOCOMOTIVE BOILER, S. H.
One 27 H. P. Locomotive Boiler, new.
One 17 H. P. Locomotive Boiler, new.
Two 38 H. P. UPRIGHT TUBULAR BOILERS, S. H.
One 25 H. P. Upright Tubular Boiler, S. H.
UPRIGHT BOILERS, all sizes, from 1 to 60 H. P., new.
HORIZONTAL ENGINES, 5 to 100 H. P.
VERTICAL ENGINES, 3 to 20 H. P.
Knowles & Worthington STEAM PUMPS, TANKS, ETC. Apply to address,
THOS. C. BASHOE & CO.
28 Light Street, Baltimore.

Second-hand Machinery in Good Order FOR SALE CHEAP.

Engine Lathes—54 in. x 30 ft.; 48 in. x 24 ft.; 44 in. x 22 ft.; 40 in. x 20 ft.; 36 in. x 18 ft.; 32 in. x 16 ft.; 28 in. x 14 ft.; 24 in. x 12 ft.; 20 in. x 10 ft.; 18 in. x 8 ft.; 16 in. x 6 ft.; 14 in. x 4 ft.; 12 in. x 3 ft.; 10 in. x 2 ft.; 8 in. x 1 ft.; 6 in. x 1 ft.; 4 in. x 1 ft.; 3 in. x 1 ft.; 2 in. x 1 ft.; 1 in. x 1 ft.; 1/2 in. x 1 ft.; 1/4 in. x 1 ft.; 1/8 in. x 1 ft.; 1/16 in. x 1 ft.; 1/32 in. x 1 ft.; 1/64 in. x 1 ft.; 1/128 in. x 1 ft.; 1/256 in. x 1 ft.; 1/512 in. x 1 ft.; 1/1024 in. x 1 ft.; 1/2048 in. x 1 ft.; 1/4096 in. x 1 ft.; 1/8192 in. x 1 ft.; 1/16384 in. x 1 ft.; 1/32768 in. x 1 ft.; 1/65536 in. x 1 ft.; 1/131072 in. x 1 ft.; 1/262144 in. x 1 ft.; 1/524288 in. x 1 ft.; 1/1048576 in. x 1 ft.; 1/2097152 in. x 1 ft.; 1/4194304 in. x 1 ft.; 1/8388608 in. x 1 ft.; 1/16777216 in. x 1 ft.; 1/33554432 in. x 1 ft.; 1/67108864 in. x 1 ft.; 1/134217728 in. x 1 ft.; 1/268435456 in. x 1 ft.; 1/536870912 in. x 1 ft.; 1/1073741824 in. x 1 ft.; 1/2147483648 in. x 1 ft.; 1/4294967296 in. x 1 ft.; 1/8589934592 in. x 1 ft.; 1/17179869184 in. x 1 ft.; 1/34359738368 in. x 1 ft.; 1/68719476736 in. x 1 ft.; 1/137438953472 in. x 1 ft.; 1/274877906944 in. x 1 ft.; 1/549755813888 in. x 1 ft.; 1/1099511627776 in. x 1 ft.; 1/2199023255552 in. x 1 ft.; 1/4398046511104 in. x 1 ft.; 1/8796093022208 in. x 1 ft.; 1/17592186044416 in. x 1 ft.; 1/35184372088832 in. x 1 ft.; 1/70368744177664 in. x 1 ft.; 1/140737488355328 in. x 1 ft.; 1/281474976710656 in. x 1 ft.; 1/562949953421312 in. x 1 ft.; 1/1125899906842624 in. x 1 ft.; 1/2251799813685248 in. x 1 ft.; 1/4503599627370496 in. x 1 ft.; 1/9007199254740992 in. x 1 ft.; 1/18014398509481984 in. x 1 ft.; 1/36028797018963968 in. x 1 ft.; 1/72057594037927936 in. x 1 ft.; 1/144115188075855872 in. x 1 ft.; 1/288230376151711744 in. x 1 ft.; 1/576460752303423488 in. x 1 ft.; 1/1152921504606846976 in. x 1 ft.; 1/2305843009213693952 in. x 1 ft.; 1/4611686018427387904 in. x 1 ft.; 1/9223372036854775808 in. x 1 ft.; 1/18446744073709551616 in. x 1 ft.; 1/36893488147419103232 in. x 1 ft.; 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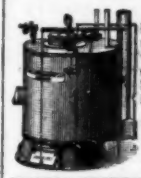
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IN THE
Manufacturers' Record.

THE Furman Steam Heater



Is guaranteed to furnish more heat per pound of fuel than any other apparatus in the world. Made in 16 sizes. Burns equally well Hard or Soft Coal. Send for full Illustrated Catalogue. Add res.

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Creamery and Dairy Machinery

AND SUPPLIES.
Outfits and Machinery for Cheese Factories.
Write for Illustrated Catalogue.
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47 & 49 West Jefferson Street.



New Otto Rubber Tire BICYCLES.
NO STRONGER BICYCLE MADE.
A. W. GUMP & CO., Dayton, O.

32 inch, factory price \$40.00, our price \$48.00
34 " " " 45.00 " 53.00
36 " " " 50.00 " 58.00
38 " " " 55.00 " 63.00
40 " " " 60.00 " 68.00
Order quick. Also 2nd second-hand Wheels. Repairing and Nickeling. Bicycles & Guns taken in trade.



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GUARANTEED HIGHEST GRADE
ILLUSTRATED CATALOGUE - FREE
POPE MFG. CO.
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BRANCH 112 WARREN ST. NEW YORK
HOUSES 1291 WABASH AVE. CHICAGO



OUR REDUCING VALVE



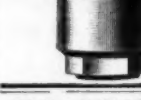
IS THE STANDARD



Used by the
American and Southern
Cotton Oil Co. & all the
Sugar Refineries.



Steam Regulating Devices.



Mason Regulator Co.
BOSTON.

TO ADVERTISERS!

For a check for \$20 we will print a ten-line advertisement in One Million issues of leading American Newspapers and complete the work within ten days. This is at the rate of only one-fifth of cost a line, for 1,000 Circulation! The advertisement will appear in but a single issue of any paper, and consequently will be placed before One Million different newspaper purchasers; or Five Million READERS, if it is true, as is sometimes stated, that every newspaper is looked at by five persons on an average. Ten lines will accommodate about 75 words. Address with copy of Adv. and check, or send 20 cents for Book of 256 pages.
GEO. F. BOWELL & CO., 108 PRINCE ST., New York.

We have just issued a new edition of our Book called "Newspaper Advertising." It has 256 pages, and among its contents may be named the following Lists and Catalogues of Newspapers: DAILY NEWSPAPERS IN NEW YORK CITY, with their Advertising Rates. DAILY NEWSPAPERS IN CITIES HAVING more than 150,000 population, omitting all but the best. DAILY NEWSPAPERS IN CITIES HAVING more than 100,000 population, omitting all but the best. A SMALL LIST OF NEWSPAPERS in which to advertise every section of the country; being a choice selection made up with great care, guided by long experience.

ONE NEWSPAPER IN A STATE. The best one for an advertiser to use if he will use but one. BARGAINS IN ADVERTISING IN DAILY Newspapers in many principal cities and towns, a List which offers peculiar inducements to some advertisers.

LARGEST CIRCULATIONS. A complete list of all American papers issuing regularly more than 25,000 copies.

THE BEST LIST OF LOCAL NEWSPAPERS, covering every town of over 5,000 population and every important county seat.

SELECT LIST OF LOCAL NEWSPAPERS, in which advertisements are inserted at half price. 5,072 VILLAGE NEWS PAGES, in which advertisements are inserted for \$2.15 a line and appear in the whole lot—one-half of all the American Weekly. Look sent to any address for THIRTY CENTS.

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Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as shown in the Following Tests at Holyoke Testing Flume:

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17½-in.	17.00	36.36	.9000
20-inch.	18.21	42.00	.9000
25-inch.	17.90	63.25	.9000
30-inch.	11.65	68.54	.9075

WITH PROPORTIONATELY HIGH EFFICIENCY AT PART-GATE.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably recommend it to the attention of ALL discriminating purchasers. These wheels are of very Superior Workmanship and Finish, and of the Best Material.

THE VICTOR WHEEL IS PARTICULARLY ADAPTED TO SETTING ON

HORIZONTAL SHAFT, Dispensing Entirely With Gears.

STILWELL & BIERCE MFG. COMPANY

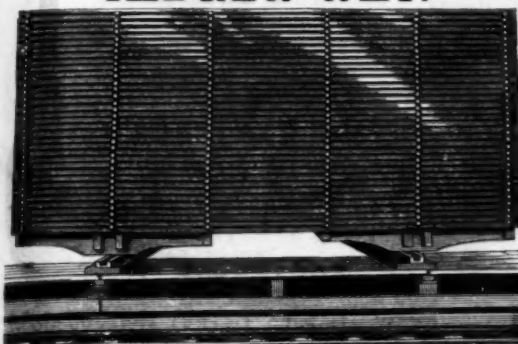
Send for new catalogue.

DAYTON, OHIO, U. S. A.



The Smith Automatic Lumber Stacker.

THE NEW WAY.



Photograph of lumber stacked by the machine on our patent trucks, which are a part of machine.

There was illustrated by the MANUFACTURERS' RECORD on March 24, 1888, a machine for stacking lumber on trucks for dry kilns. The machine has been in Successful Operation in the mill of the owners of the patents for more than two years, and is now offered to the trade. Any mill stacking for dry houses as much as 15,000 feet of lumber per day will, by using this machine, save enough every year to pay for same. For further description, prices, etc., apply to the undersigned—who refer to the editors of this paper. In writing for information name this paper.

THE OLD WAY.



Photograph of hand stacked lumber.

MARBURY, JONES & HAND, Bozeman, Autauga Co., Ala.

The Thomson-Houston Electric Comp'y,

MANUFACTURERS OF

Dynamos for Arc and Incandescent Lighting.

MOTORS FROM ONE-HALF TO SEVENTY-FIVE HORSE POWER.

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148 Michigan Avenue, Chicago, Ill.

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Kimball House Building, Atlanta, Ga.

503 4th St, Washington, D. C.

SAWYER-MAN ELECTRIC CO.

Licensed by and Succeeding to the Commercial Business of the

CONSOLIDATED ELECTRIC LIGHT COMPANY.

OWNERS

OF THE

SAWYER-MAN

PATENTS.



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BALTIMORE OFFICE:
No. 217 E. Fayette St.
PHILADELPHIA OFFICE:
No. 205 Walnut Place.
BOSTON OFFICE:
No. 33 Federal Street.

The DYNAMO of this Company is AUTOMATIC in its regulation, and will maintain a UNIFORM LIGHT, with ALL or ANY PORTION of the lights in Circuit. Our LAMP will not BLACKEN and will MAINTAIN its CANDLE POWER during its Guaranteed life. Plans and Estimates Furnished for all kinds of Incandescent Lighting. ESTIMATES FURNISHED FOR THE THOMSON-HOUSTON SYSTEM OF ARC LIGHTING.

ELECTRIC NOVELTY WORKS,

Electrical and Mechanical Engineers,

ROBERT R. ZELL, M. E., Gen'l Manager,
CONTRACTORS FOR ELECTRICAL AND STEAM PLANTS,

Office, 21 Post-Office Avenue.

BALTIMORE.

THOMAS V. HALL, M. E., Consulting Engineer.

A. S. CORSELY.

THOMAS V. HALL & CO.

CONTRACTORS

FOR THE FULL EQUIPMENT AND CONSTRUCTION OF

Ice Manufacturing and Cold Storage Plants.

Water Works on the Holly Reservoir or Stand Pipe System. Incandescent and Arc Electric Light Plants. Fruit and Vegetable Canning Factories on the Matthews Patent Rapid Process System. Hand, Steam and Hydraulic Passenger and Freight Elevators.

OFFICE:

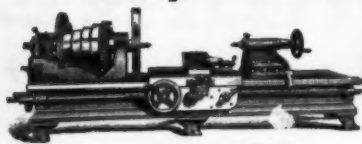
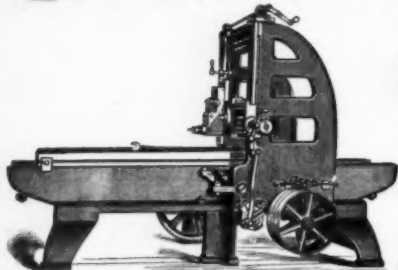
Correspondence Solicited.

Send for Estimates.

Room 23 Montague Block, S. E. Cor. Eighth and Chestnut Streets, CHATTANOOGA, TENN.

HILL, CLARKE & CO.

DEALERS IN

**Machine Tools,**

ENGINE LATHES,
Iron Planers, Upright Drills,
MILLING MACHINES,
Bolt Cutting Machines,
Special Railroad Tools, &c.

156 to 164 BOSTON, MASS.
Oliver Street.

Build AND Repair Your Machinery

BY USING

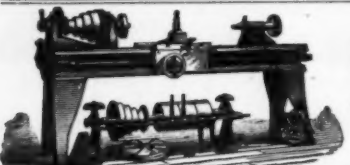
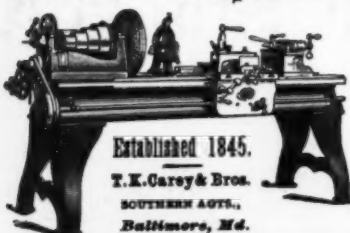
Engine Lathes, Planers,
Chucking Lathes, Hand Lathes,

MACHINE TOOLS GENERALLY
MANUFACTURED BY
LATHE & MORSETOOL CO.

Worcester, Mass., U. S. A.

17, 24 & 27-INCH
Engine Lathes
New Designs.

THE MULLER MACHINE TOOL CO.
8th and Evans Streets,
CINCINNATI, O.



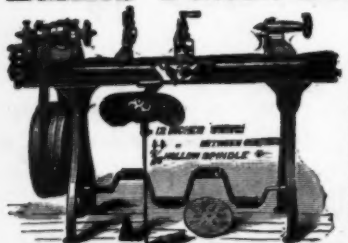
Sebastian, May & Co.'s Improved Screw Cutting

FOOT AND **LATHES** POWER

Drill Presses, Shapers, Band, Circular and Scroll
Saws. Machinists' Tools and Supplies. Lathes
on trial. Catalogue mailed on application.
182 West Second Street, CINCINNATI, O.

**Barnes' Patent Foot Power Machinery.**

Complete outfit for Actual Workshop Business. Lathes for Wood or
Metal. Circular Saws, Scroll Saws, Formers, Mortises,
Tenoners, Etc., Etc.



Our Patent Velocipede Foot-Power is without question the best yet
applied to Lathes. Read a few expressions from those using them:
"I do not see how your lathes can be produced at so low cost." "The
velocipede foot-power is simply elegant." "Can turn a whole day,
and feel as little tired as though only walking around." "In regard
to the velocipede foot-power, I consider the lathe without an equal."
"I sat at the lathe for 11 hours, cutting off and threading 1 1/2 steam
pipes. Those who saw it declared it equal to 15 hour job in machine
shop." "Using the velocipede foot-power, the operator can hold a steady
hand for doing the work." "For doing actual business, the lightest or
the heaviest, give me the velocipede foot-power." "The 4 1/2 Lathes is
equal to any costing twice the money." "What astonishes me is, how
you can make machines to pay you for so small sum of money." "The
No. 6 Lathe is the most perfect tool I ever saw for the money." "I can
do double the amount of work on the velocipede, that I can on any
other style of foot-power lathe." "There is no tax on strength, the
body is at rest, steady, the hands and attention free for the job."
"The velocipede.—It is the best foot-power of any for lathes."

If desired, these machines will be sold ON TRIAL. The purchaser can have ample time to test
them in his own shop and on the work he wishes them to do. Descriptive Catalogue and Price-List
Free W. F. & JOHN BARNES CO., No. 251 Ruby St., Rockford, Ill.

W. H. WREN, President. H. E. MCWANE, Superintendent. W. D. CAMPBELL, Sec'y and Treas.

**THE CLAMORGAN COMPANY, Proprietors of
HILL CITY PIPE WORKS**

Manufacture all kinds of Blast
Furnace, Coking and Mining Ma-
chinery; Boilers, Engines, Tram-
way and Construction Car Castings,
and Tobacco Machinery, &c.
Prices on application.
LYNCHBURG, VA.

South Pittsburg Pipe Works.

GEO. E. DOWNING, Pres. JAMES BOWEN, Vice-Pres. DR. W. R. TOWNSEND, Secy.

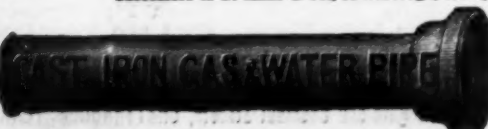
Manufacturers of South Pittsburg, Tenn

CAST IRON GAS & WATER PIPE
WARREN WOOD & CO.
115 Broadway, N. Y.
EASTERN AGENTS.

CHATTANOOGA FOUNDRY & PIPE WORKS.

DAVID GILES, Pres. C. B. BEXTER, Vice-Pres. M. LLEWELLYN, Secy. and Treas.
Successors to B. GILES & CO., Chattanooga, Tenn., Manufacturers of

Also Castings and Pat-
terns of Every Descrip-
tion made to order.

**PALMER, CUNNINGHAM & CO., Limited**

SEND FOR
Catalogue "C"
—AGENTS FOR—
KEARNEY & FOOT
FILES.
607 Market Street, PHILADELPHIA, PA.



TOOLS FOR
MECHANICS
Railroad Supplies
CHUCKS,
DRILLS,
REAMERS,
SCREW PLATES,
Etc.

**BRADLEY'S UPRIGHT CUSHIONED & HEATING FORGES
HELVE HAMMER**

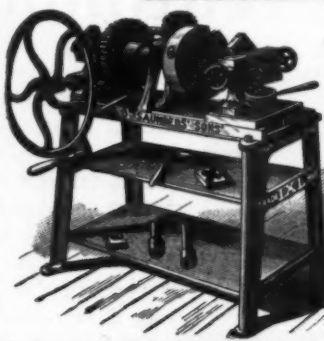
With a manufacturing expe-
rience of over half a century,
we recommend these ma-
chines to be the best, sim-
plest, most durable and com-
bining all the essential elements.

ESTABLISHED 1832

BRADLEY AND COMPANY, SYRACUSE, NEW YORK

D. SAUNDERS' SONS,

MANUFACTURERS OF THE ORIGINAL



TRADE **I.X.L.** MARK.
Pipe Cutting and
Threading Machine.
BEWARE OF IMITATIONS.
None genuine without our Trade
Mark and name. Also
Patent Wheel Pipe Cutter
STEAM AND GAS FITTERS'
HAND TOOLS,
Pipe Cutting and Threading Machine
For Pipe Mill Use a Specialty.
Send for Catalogue B.
YONKERS N. Y.

**STEEL
CASTINGS**

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of un-
equalled strength. Stronger and more durable than iron castings in
any position or for any service whatever. 40,000 CRANK SHAFTS
and 30,000 GEAR WHEELS of this steel now running prove this.
CRANK SHAFTS and GEARING specialties. STEEL
CASTINGS of every description. Send for circulars and prices to

CHESTER STEEL CASTINGS CO.

Office, 407 Library St., Philadelphia. Works, Chester, Pa.



100% GENUINE
INGOTS & MANUFACTURES
WEAR OUR
REG. TRADE MARKS
PHOSPHOR-BRONZE
INGOTS, CASTINGS & MANUFACTURES.
THE PHOSPHOR BRONZE SMELTING CO. LIMITED
512 ARCH ST. PHILADELPHIA PA. U.S.A.
ORIGINAL MANUFACTURERS OF PHOSPHOR-
BRONZE IN THE UNITED STATES AND OWNERS
OF THE U.S. PATENTS.

**CHARLES F. TAYLOR,
Patent Machine Paper Cop Tubes.**

These Tubes are used in a large number of Leading Mills, including
Lonsdale Company, Lonsdale, R. I.
Social Manufacturing Co., Woonsocket, R. I.
Manville Company, Manville, R. I.
Harmony Mills, Cohoes, N. Y.
Utica Steam Cotton Mills, Utica, N. Y.
The New York Mills, New York Mills, N. Y.
Tubes furnished promptly for all makes of spindles, American or foreign. Address
Amoskeag Manufacturing Co., Manchester, N. H.
Pacific Mills, Lawrence, Mass.
Atlantic Cotton Mills, Lawrence, Mass.
Laconia Company, Bloddeford, Me.
Bates Manufacturing Co., Lewiston, Me.
Lockwood Company, Waterville, Me.

CHARLES F. TAYLOR, 5 Custom House St., Providence, R. I.

**WALMSLEY'S DEVICE**

For Raising and Supporting the Guide Board or Ring Frames
and Twisters. In Fall River alone it is used on over 400,000
spindles, or 99 per cent. of all the ring frame spindles in the
city. Outside of Fall River its use is scattered from Maine to
Delaware, over 400,000 more. Anyone can put them on, being
very simple, and its cost nominal.

For prices and information please address

R. WALMSLEY, FALL RIVER, MASS.

Patented Jan. 26, 1886.

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MANUFACTURERS



**MACHINE AND CAR BOLTS,
KEYSTONE BOILER RIVETS,**

MADE IN SOLID DIME,
COLD PUNCHED, CHAMFERED, TRIMMED &
DRILLED SQUARE & HEXAGON NUTS.

Bridge Rivets,

Split and

Single Keys.

WASHERS,

Tank and Coopers'

RIVETS.

PHILADELPHIA, PA.

ESTABLISHED IN 1865.

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RICHMOND, VA.

BUILDERS OF

LOCOMOTIVES.

Standard and Narrow-Gauge, for
for every variety of service. Pole
Road Locomotives and Cars, the only
successful device of the kind made.

Stationary and Portable

ENGINES.

12 to 300 Horse-Power.

Standard and Special, 12 to 300 horse-power.

Gas, Water, Creosoting and other heavy ma-
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graphs and estimates furnished on application.

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STEEL RAILS

PENNSYLVANIA

Standard Sections

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Street Rails

Fish Plates,

Frogs, Switches

STEPHEN W. BALDWIN
SALES AGENT

STEEL COMPANY

50 to 80 lbs. per yard

16 " 45 " " "

30 " 88 " " "

Bolts & Nuts,
and Crossings.

NO. 2 WALL STREET
NEW YORK N.Y.

16 lbs. Full Size.

BUCYRUS FOUNDRY & MFG. CO.

BUCYRUS, OHIO.

Builders of—

Steam Shovels,

Steam Dredges,

WRECKING CARS.

THE STEWART & MATTSON MFG. CO.

Railroad Car Trimmings & General Brass Ship Work.

On Bearings and Ingot Metal, Switch and Car Locks, Fine Brass Castings, Brass Special Screws and Bolts,
Car Trimmings Repaired, Repolished, Oxidized and Plated.

Office and Factory, Nos. 2042 to 2052 N. 10th St., PHILADELPHIA, PA.

Railway Equipment, Pig Iron, Coal and Coke.

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KUNNIGERODE & ELLERBE, P.O. BOX 796 Birmingham, Ala.



**The STANDARD
Steel Works,**
—MANUFACTURERS OF—
**Locomotive and Car Wheel
TIRES.**

OFFICE: 220 SOUTH FOURTH ST.
PHILADELPHIA, PA.

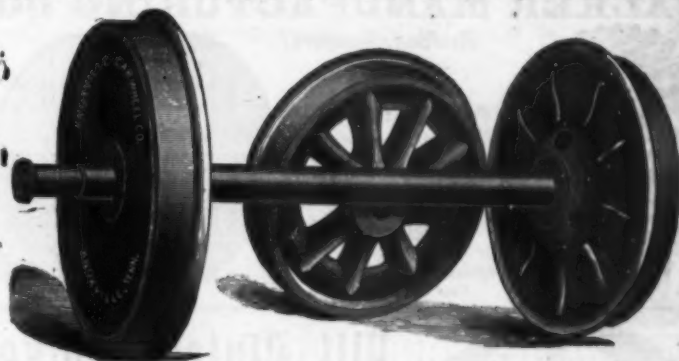
Knoxville Car Wheel Co.

—KNOXVILLE, TENN.—

Manufacturers of All Kinds of

CHILLED WHEELS

For Railroads, Street Railroads, Ore and Coal Mines, and Lumbermen.



Steam Hammers,
Steam Hoists,
Foundry Cupolas,
Derricks, Crabs,
Horse Powers,
Shieves, Drill Heads,
Gearing, Pulleys,
Bolts of all sizes,
Locomotives and Engines
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Steel and Iron Boilers,
Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings,
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if
desired, with Oil Boxes
and Bolts.

MENTION THIS PAPER.

JOHN STEPHENSON COMPANY NEW YORK



TRAMWAY CARS OF EVERY DESCRIPTION
LIGHT, ELEGANT AND RAPID



MONTAGUE & CO.

MANUFACTURERS OF

* FIRE BRICK, *

Standard Sewer Pipe

AND CULVERT PIPE.

Double Strength, with Improved Sockets.

CHATTANOOGA, TENN.

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Steam Heater



THE SIMPLEST AND MOST COMPLETE HOUSE HEATER IN THE WORLD.

No Brick Work required to set them

Made in 16 Sizes, adapted to Heating Residences, Hotels, Stores, Schools, Churches and Public Buildings.

More than 4,700 in actual use. Produces more heat from the fuel consumed than can be obtained by any other method of heating.

No Dust. No Gas. No Skill to Run Them. Magazine Feed, carries steam 24 to 24 hours without any attention.

Sectional, Portable, Automatic.

Illustrated Book and Prices Sent Free Upon Request. Address

Pierce, Butler & Pierce Mfg. Co.

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Active Agents wanted in every Southern city and town. Write for particulars at once.

WALKER MANUFACTURING CO.

Shafting, Hangers, PULLEYS.

PULLEY CASTINGS

AND MACHINE-MOULDED

GEARING

A Specialty.

Cleveland, Ohio.

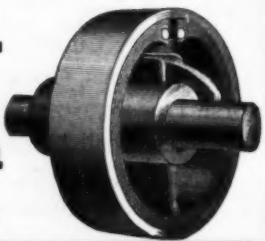
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Hill Clutch Works,

Cleveland, O.

HILL Friction Clutch.



Patented in United States, March 27, 1888.

Belt Holder

AND

Shifter.

An Entirely

NEW

DISCOVERY

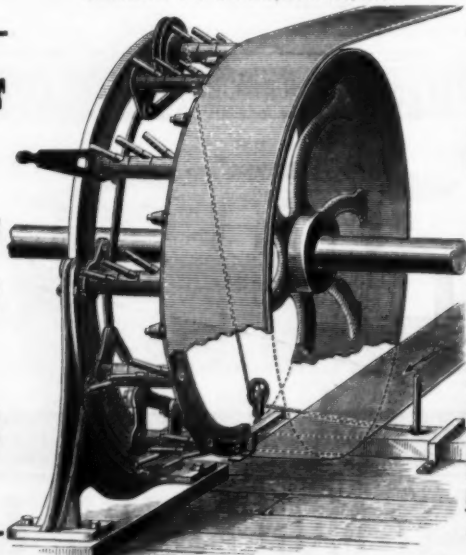
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METHOD

OF

Controlling

BELTS.



A Perfect Substi-

tute for

Loose Pulleys

Friction-Clutch

Pulleys, Etc.

EXPLANATION OF CUT.—An upward movement of the Lever guides the belt onto the Holder. A reverse movement forces the belt onto the pulley, without the speed of the pulley being changed, and neither the shifting from the Holder to the pulley, nor from the pulley to the Holder, produces any shock or jar.

Shown from Floor. Turn Upside Down to see Position on Ceiling. A Positive Necessity for Dynamos, Wood-working Planers, Saws, Blowers, and all Fast Running Machinery.

WILLIS & SCHENCK, Agts, This ad. appears every other week. 93 Liberty St., New York.

FOR THE LATEST IMPROVED GAS WORKS APPARATUS AND HOLDERS,

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KERR-MURRAY MANUFACTURING CO., FORT WAYNE, IND.

PLANS, ESTIMATES AND DRAWINGS FURNISHED.



PERFECTION BRICK PRESS,

An easy-working, quick-operating and powerful press. Will successfully press brick made on any Brick or Tile Machine.

The Wrought-Iron Tempering Wheel. The most thorough mud temperer known. Tempered faster, mixes better and runs lighter than any wheel made.

Barrows, Trucks, Molds, Kiln Doors, &c.

Write us for prices.

C. W. RAYMOND & CO.

DAYTON, O.

Mention Manufacturers' Record.

The Spiral Pug Mill

QUAKER BRICK MACHINE.

Capacity 40,000 Perfect Brick Per Day

Great Saving in Labor and Expense

We contract to furnish complete Brick-yard outfit,—Engines and everything needed complete. Write for our handsomely illustrated catalogue, containing valuable information. Estimates furnished. Correspondence solicited. Address

FLETCHER & THOMAS, Indianapolis, Ind.

Mention Manufacturers' Record.



FREY'S NEW BRICK AND TILE MACHINE

40,000

BRICK

PER

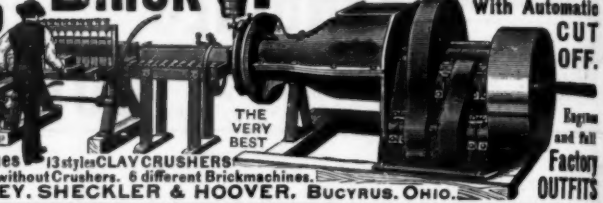
DAY

TILE

from 1 to 20 inches

Machines with or without Crushers. 6 different Brickmachines.

Address FREY, SHECKLER & HOOVER, Bucyrus, Ohio.



Queen City Printing Ink Co.

CINCINNATI, OHIO.

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QUEEN CITY PRINTING INK CO

CINCINNATI, O.

MANUFACTURERS OF ALL DESCRIPTIONS OF

INKS!

Varnishes and Sizes

FOR PRINTERS' USE.

New York Office, . . . 194 William Street.

Philadelphia Office, . . . 434 Walnut Street.

Advertise in the MANUFACTURERS' RECORD.

FLORENCE, ALA.

County Seat of Lauderdale County.

At Head of Navigation on Tennessee River, and at Foot of Muscle Shoals Canal,
which will be open Jan. 1st, 1888.

SITUATED on a gently undulating Plateau, 200 feet above high-water mark, surrounded by three large creeks of pure free-stone water. It has a Court House, Two Colleges, Four Public Schools, Six Churches, beautiful wide streets, graded and graveled, and shaded with forest trees; Hotels, fine store houses, Masonic, Odd Fellows, K. of H. and L. of H. lodges. A population of 2,500—moral, social and hospitable.

— The Scenery on Every Side is Picturesque and Beautiful. —

SO MUCH SO THAT IT IS CALLED BY VISITORS

FAIR FLORENCE."

There is no Place on the Continent more Healthful and Salubrious.

MANUFACTURES.

Within the last six months numerous manufactures have been located here, among the number:

Five Large Blast Furnaces,
One Rolling Mill,
Three Planing Mills,

One Saw Mill,
One Flour Mill,
One Wooden-Ware Factory.

One Cotton Mill,
One Cotton Compress and Ice
Factory.

Two Brick Machines and
Three Hand-Brick Yards.

There are VAST BEDS OF IRON ORE within a few miles North and
IMMENSE COAL FIELDS SOUTH

ACCESSIBLE BY RAILROADS NOW BEING RAPIDLY CONSTRUCTED.

By the 1st of January the Nashville & Florence Railroad will be completed, making three lines of railroad, and the river, thus opening up VAST AREAS OF TIMBER, IRON ORE, COAL, Marble, Limestone, Kaolin, Fire-Clay, and almost every kind of mineral and product.

THE LANDS IN THE SURROUNDING COUNTRY ARE FERTILE AND PRODUCTIVE.

All kinds of Grain, Grasses and Fruits grow to perfection. Springs and Water Courses are numerous, and grazing for Cattle is abundant for eight months of the year.

Pamphlets and maps furnished on application to

Florence Land, Mining & Manufacturing Company.

ATHENS, East Tennessee,

THE COMING

→ Iron and Manufacturing City of the South. ←

Athens is the county seat of one of the most fertile counties in East Tennessee. The health of the city is unsurpassed, and is **ABSOLUTELY FREE FROM ALL MALARIAL OR EPIDEMIC DISEASES**. The surrounding scenery is very fine. From the main avenue the whole valley of East Tennessee can be seen, from the Cumberland Mountains on the west to the Great Smoky Mountains on the east; some of the tallest peaks east of the Rockies being in full view. **FINE MINERAL SPRINGS** are adjacent and are popular summer resorts. The society of Athens is excellent. A cordial welcome is extended to all law-abiding people locating in the town. The **EDUCATIONAL FACILITIES** are good. Beside public and preparatory schools, Athens is the seat of **THE GRANT MEMORIAL UNIVERSITY**, which has an enrollment of over 300, and whose graduates include some of the most distinguished citizens in the country. Among the industries and institutions of the place in active operation are:

THE ATHENS BUILDING & LOAN ASSOCIATION, \$250,000. **THE ATHENS WOOLEN MILLS, \$100,000.**

THE FIRST NATIONAL BANK, \$50,000.—To be increased at once.

FOUNDRY & MACHINE SHOPS, \$25,000.

FURNITURE WORKS, \$15,000.

FLOURING MILLS, \$20,000, etc.

500 men are now at work on the new railroad from Athens to the

RICHEST IRON FIELDS IN THE SOUTH.

JUST EAST OF THE TOWN.

Only eight miles from Athens are **VEINS OF RED FOSSILIFEROUS ORE 11½ FEET THICK**, and 4 to 12 miles beyond are **THE LARGEST DEPOSITS OF BROWN ORES IN THE SOUTH**. The ores of both varieties, in addition to being inexhaustible, are both superior in quality to any ores of either variety at present mined in the South. An assertion that can be sustained. Coke can now be obtained at the lowest prices, and in addition a new railroad is now projected to the Cumberland Coal Fields, only 22 miles distant. These roads will give Athens **UNSURPASSED SHIPPING FACILITIES**. The road under construction will penetrate large deposits of Tennessee Variegated Marble; also an Unopened Timbered Region, and will develop the

Largest Colored Slate Deposits in the United States.

These quarries are now being opened, and are pronounced by experts Absolutely Inexhaustible, and equal in quality to the finest Vermont Colored Slate.

The ATHENS MINING & MANUFACTURING CO.

Have alone just contracted for the erection of over

\$500,000 IN NEW MANUFACTURING ENTERPRISES

At Athens, including a 100-ton Blast Furnace, cost \$200,000; Cotton Mills, cost \$150,000; Furniture Works, employing 200 men, cost \$100,000; Hotel, cost \$60,000; Water Works, Street Car Lines, &c. These improvements have been commenced which, added to other improvements projected, will add

\$1,000,000 OF NEW MANUFACTURING ENTERPRISES TO ATHENS.

The company desire to open correspondence with parties desiring to locate, and will extend liberal inducements in addition to gifts of sites in order to induce New Manufacturing Enterprises to locate in Athens. City property is doubling in value every few months, and at present low prices is beyond question a very fine investment.

The Athens Mining & Manufacturing Company,

F. L. BRIGHT, President.

R. J. FISHER, Secy. and Genl. Manager.

Tuskaloosa, Ala.

* ALABAMA'S NATURAL PITTSBURGH. *

A Railroad and River Town of 6,000 Inhabitants, in the Coal, Iron and Timber District.

DIPLOMAS FOR

The Best Furnace Coke and the Best Blacksmith Coal

WERE AWARDED THIS CITY OVER ALL AND MANY COMPETITORS AT THE GREAT PIEDMONT EXPOSITION.

HEALTHFUL LOCATION. SALUBRIOUS CLIMATE. SCHOOL FACILITIES UNEQUALED BY ANY OTHER TOWN IN THE SOUTH.

"EXAMINE THE MAP."

+ SITUATED ON +

Queen & Crescent

—TRUNK LINE—

IN THE

Warrior Coal Field

AND ON THE

WARRIOR RIVER.

Only Navigable River touching the

Alabama Mineral Field.

Eight Months Navigation. Being Surveyed

now to be opened all the year round.

All Water Navigation to

❖ **MOBILE** ❖

AND THE

Entire Gulf and Atlantic Coasts.

THE

Tuskaloosa Northern Railroad

Is now under construction into the

MINERAL and TIMBER FIELDS.

—THE—

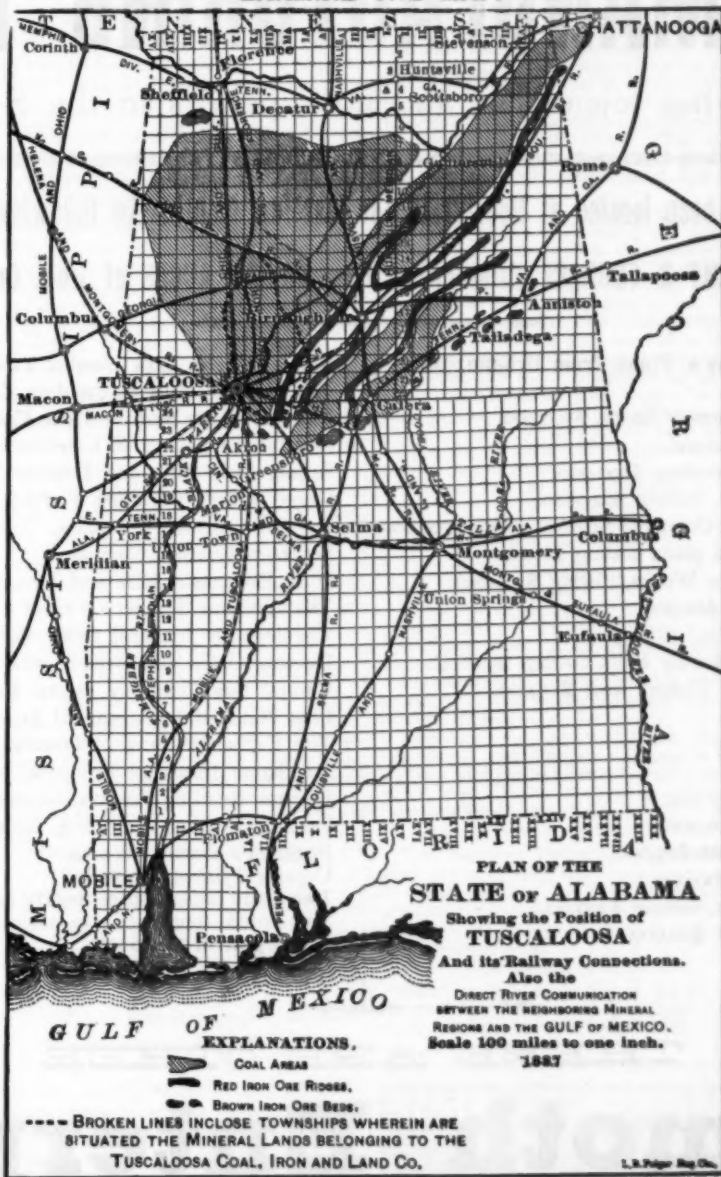
Macon & Tuskaloosa Railroad

Will soon be building into the

COTTON REGION OF MISSISSIPPI.

Fine Farming Region

Around and Below the City.



Superior Inducements

AND

+ ADVANTAGES +

TO ALL

Manufactories Consuming

**WOOD,
IRON,
COTTON.**

FINE COKING COAL

In workable veins near city, fully tested.

«The Fire Clay»

Existing in inexhaustible quantities, has been

practically tested and pronounced

The Best yet Discovered in the South.

The Tuskaloosa Belt Railway

NOW IN OPERATION.

+THE TUSKALOOSA WATER WORKS+

NOW BUILDING.

COTTON MILL

In Successful Operation.

ALSO

LARGE BRICK WORKS

COTTON-SEED OIL MILL, &c.

Manufacturers Seeking Locations in the South have here

❖ **THE GOLDEN OPPORTUNITY.** ❖

Many have availed themselves of it, but such is the wonderful richness of the resources of this section that there is

— ROOM FOR ALL —

Tuskaloosa Coal, Iron & Land Co.,

Owning 4,600 acres of city and suburban property, and 40,000 acres of mineral and timber lands, offers liberal inducements to manufacturers to locate at Tuskaloosa, Nature's City, and invites correspondence and the fullest investigation of its claims.

An illustrated descriptive pamphlet sent free upon application to

W. C. JEMISON, President Tuskaloosa Coal, Iron & Land Co., **TUSKALOOSA, ALA.**

DECATUR, ALA.

Offers outside investors better inducements to locate than any other

 CITY IN THE SOUTH. 

AS A CITY OF

Mammoth MANUFACTURING Enterprises,

She has few equals and no superiors in the South.

There have been located at Decatur in the last few months the following Industries :

THE DECATUR LAND, IMPROVEMENT & FURNACE COMPANY. Has 50,000 ACRES of Iron, Coal, Mineral and Timber LANDS.

United States Rolling Stock Company's Plant, from Urbana, Ohio,
\$1,000,000.

Louisville & Nashville Railway Construction Shops, \$300,000.

Charcoal Company's plant, costing \$120,000.

A seventy-ton Charcoal Iron Furnace, costing \$190,000.

A one hundred-ton Blast Iron Furnace, costing \$225,000.

The Decatur Iron Bridge Construction Company; cost of plant, \$100,000.

The American Oak Extract Company's plant, costing \$60,000.

Ivens & Sons Steam Boiler and Engine Works, costing \$100,000.

Morse Cotton Compress plant, costing \$60,000.

Southern Horse Nail Company, \$100,000.

Decatur Lumber Company, Saw and Planing Mills, costing \$50,000.

Berthard & Co., Sash, Door and Blind Factory, cost \$15,000.

The Decatur Street Railway Company.

The Plumbers' Supply Co., \$25,000.

The Telephone Company.

The Alabama Lumber & Fruit Package Co.

Brush Electric Light Company, cost \$10,000.

The Ironton Wheelbarrow Company, cost \$25,000.

The St. Louis Investment Company, \$200,000.

Howland & Co's Water Works System, costing \$200,000.

Bleymeyer Artificial Ice Company, cost \$10,000.

Four Mammoth Brickyards.

Jones, Poley & Co's Lumber Yards.

The Hoosier Mills & Building Company.

The Gate City Sash & Door Company.

Decatur Car Wheel & Construction Company, \$60,000.

Arantz Bro's Mills and Lumber Yards.

Grant & Co's Furniture Factory.

Decatur Carriage Company.

Southern Lumber Company.

H. S. Freeman's Mills and Lumber Yards.

The Alabama Farmer's Friend Fence Machine Company.

The Decatur Artificial Stone Company.

Decatur Chain and Architectural Iron Works, capital \$100,000.

Natural Gas Company, capital \$200,000.

First National Bank, capital \$100,000.

The Exchange Bank of Decatur, capital \$100,000.

Merchants' Insurance Company, capital \$100,000

Decatur Building Association, capital \$300,000.

Decatur Building Company, capital \$1,000,000.

Buchheit's Bottling Works.

Decatur Printing Company.

Two daily papers, three weekly papers.

Two hotels—one \$100,000, completed, and one \$300,000 being built; the

largest in the South.

Grand Opera House, \$100,000.

THERE ARE OTHER

* Mammoth Enterprises *

Locating here, and contracts are being made with some of the most extensive industries in the United States.

Decatur is the Healthiest city in Alabama, the death rate among whites for 1886 being only 11 in 1,000.

Decatur Land, Improvement & Furnace Company.

E. C. GORDON, President.

H. G. BOND, Vice-Prest. and Gen. Manager.

W. T. MULLIGAN, Secretary.

This Company has been pre-eminently successful in promoting the interests of the city of Decatur.

CORRESPONDENCE SOLICITED WITH PARTIES SEEKING LOCATIONS.

TRADE NOTES.

THE Whittier Machine Co. have placed an order for a number of pump pressure regulators with the Mason Regulator Co., of Boston. The regulators are to be used on steam pumps connected with their elevator systems.

THE Mason Regulator Co., of Boston, have recently put upon the market an improved pump pressure regulator, which is especially applicable to pumps used on air brake systems. Over 200 of their reducing valves were used last winter by one car-heating company.

THE Wainwright Manufacturing Co., 65 Oliver street, Boston, and works at Bedford, Mass., have recently established an office and salesroom at 18 Cortlandt street, New York. The use of their corrugated goods, feed-water heaters, &c., steadily increases, and their sales keep up in spite of the periodical dullness usual at this season.

MR. JNO. N. MARQUETTE, machinist, No. 118 West Falls avenue, Baltimore, reports his business as very encouraging. He has just finished and put up one 12 horse-power engine in this city; is putting in a 50 horse-power engine for Messrs. Louis Elmer & Sons, of Baltimore, and is building a 60 horse-power engine for parties in Richmond, Va. He has also a liberal amount of repair work on hand.

THE Wiswell Electric Mining Machinery Co., of Boston, Mass., say: "The owners of the Howie gold mine, near Monroe, N. C., who have been using the Wiswell mill with great success the past 18 months, have just ordered two more mills for the same property. The May Virginia gold mine, Talladega, Ala., has just purchased a Wiswell mill. The Wiswell Co. has also just sold an extensive plant for Cuba."

A LARGE and finely appointed creamery was recently fitted out with the latest machinery, consisting of engine, boiler, vats, presses, etc., with various other improved apparatus for the manufacture of cheese and butter, for Messrs. Rogers & Ishenwood, at Austin, Texas, by John S. Carter, of Syracuse, N. Y., the well-known dairy supply dealer and manufacturer. There is room in many such plants in the South, and money can be made in the dairy business with the improved machinery and apparatus of the present day.

FRANK W. SWETT, manufacturer of band saws and band saw tools, Chicago, Ill., writes as follows: "Please find enclosed contract signed for advertising in your paper—third renewal. I have had a fine trade so far this year, and I consider your paper the best medium that I know of to reach the machinery dealers and manufacturers, and that is why I continue in it. I always stick to a good thing. Have had quite a large trade South this season, and my goods are handled by the Atlanta Saw Works, who carry a full line of my specialties."

THE Western warehouses of Goodell & Waters, Chicago, Ill., Mr. C. L. Rice, manager, have been removed from Nos. 11 and 13 Canal street to Nos. 63 and 65 South Canal street. This change has been made necessary by the very large increase of the trade of this firm. In a letter of recent date to us they say: "Since the opening of our Chicago branch our trade in the Northwest has increased very rapidly, and we soon recognized the fact our store was totally inadequate to meet the demands of the prosperous trade we were enjoying. We have now secured the very desirable store at Nos. 63 and 65 South Canal street, and will carry a complete line of wood-working machinery and supplies. We are agents for the Northwest for the sale of the Dodge pulleys, and will keep a full line of our goods."

WILLIS & SCHENCK, 93 Liberty street, New York, have recently placed a Lightning belt-holder and shifter in the plants of the Citizens' Electric Light Co., Brooklyn, N. Y.; the De La Vergne Refrigerating Machine Co., N. Y.; the Kupfl & Essen Co., Hoboken, N. J., and Somer Bros., Brooklyn. Orders from some of the most prominent manufacturers in the East, South and West for this device are now awaiting shipment.

CHAR. A. SCHIEREN & CO., New York, report recent sales of their electric belting to the following: Lidgerwood Manufacturing Co., New York City; H. A. Rogers, New York City; Budweiser Brewing Co., Brooklyn, N. Y.; Riverside & Oswego Mills, Oswego Falls, N. Y.; J. T. Wing & Co., Detroit, Mich.; C. E. Rogers & Co., Brooklyn, N. Y.; Parkhill Manufacturing Co., Fitchburg, Mass.; Smith & Courtney, Richmond, Va.; Rubsam & Horrmann, Stapleton, L. I., N. Y.; Steinway & Sons (pianos), New York City.

THE Glen Cove Machine Co., Brooklyn, N. Y., have just issued a very valuable catalogue, illustrating and describing their improved machinery for planing and moulding mills. This catalogue contains an accurate description of their special patents of fast-feeding planing and matching machines, fast-feed flooring and ceiling machines, combined surfacing and matching machines, double surfacers, heavy inside moulding machines, adjustable saw benches, side spindles, etc., etc. The catalogue also contains a full set of diagrams, showing the ground plan of their planers, surfacing and moulding machines, and many testimonials as to their capacity, quality of work done and durability. Those interested would do well to send for this book.

SALES of the Dunning boiler, manufactured by New York Central Iron Works, at Geneva, N. Y., have reached the unparalleled number of 13,500, and the boiler is becoming more popular in the market than ever, notwithstanding the present competition in heating apparatus. We publish a letter just received by Mr. Dunning from the Philadelphia Steam Heating Co., who sold 252 of these boilers during the past three years. This letter speaks in the highest terms of the Dunning boiler:

PHILADELPHIA, PA., May 16, 1888.

W. B. Dunning, Esq., Geneva, N. Y.:

DEAR SIR—In reply to yours of 14th inst., asking for our experience with your low pressure house heating boiler, we beg to say that we have used during the past three years 252 Dunning boilers, and, without fear of contradiction, can say that every boiler and every plant installed by us has given satisfaction. We have letters from our clients to substantiate our claims. With us the Dunning boiler heads the list. We speak from experience, and hope to use our usual quota every year.

Respectfully yours,
PHILADELPHIA STEAM HEATING CO.,
(Signed.) PALMER & BALLARD.

THE Taylor Manufacturing Co., of Chambersburg, Pa., builders of the "Beck" automatic engines, and who make a specialty of the erection and manufacture of complete steam plants, report the following among their orders: Two 120 horse-power "Beck" automatic engines, with two 150 horse-power each return tubular boilers, to the Schuyler Electric Co. for their plant at Hagerstown, Md.; a 100 horse-power complete steam plant to the Consolidated Street Railway Co., of Columbus, O., to operate an electrical railway; a 67 horse-power complete steam plant to furnish power for the Thomson-Houston station to be erected at Frederick City, Md.; a 57 horse-power complete steam plant for the Thomson-Houston station to be erected at Reidsville, N. C.; by the Southern Electric Light & Power Co.; a 100 horse-power complete steam plant for electric light station at Coldwater, Mich.; a 728 automatic engine to run a dynamo in the "Hotel Delany," Pittsburgh, Pa.; also a 15 horse-power vertical automatic engine on a combined base for dynamo for service at Fort Huron, Mich. For general service, they report sales of three horizontal automatic engines to operate in flour mills

in Texas, and numerous other automatic engines, ranging in power from 35 to 150 horse-power, and sold for planing mill and manufacturing purposes; also four plain slide valve vertical engines of 12 horse-power each for operating in rolling mills in Addyston, Ohio.

We call attention to the advertisement of the Herendeen Manufacturing Co., of Geneva, N. Y., which appears on index page. The Furman steam heater boiler, which they make in 16 sizes, is a portable boiler, embracing many good features which are fully described in a neat catalogue for free distribution. The following letter, under date of May 8, from a well-known Baltimore house speaks for itself:

BALTIMORE, May 8, 1888.

Herendeen Mfg. Co., Geneva, N. Y.:

GENTLEMEN—In reply to your question asking for the results of our past winter's experience with the No. 5 surface burner Furman, would say that we set up the boiler early in November, attaching to it 800 feet of direct radiation.

During November, December and January we burned about ten tons of No. 1 furnace coal, costing from \$6 to \$7.50 per ton.

Learning that the boiler could be run successfully on cheaper fuel we began experimenting, finally adopting a mixture of soft Cumberland coal and hard coal screenings in proportion of half and half. This mixture burned perfectly free, fully as well as the hard coal, and required much less attention.

We have used this mixture exclusively since the middle of February and found, greatly to our surprise, that the quantity we were using was very much less in comparison with the hard coal, while the results were equally as good in making steam. We have burned only four tons altogether since February, at a cost of \$2.75 per ton, or considerably less than half what we were paying for the hard coal. We found the boiler would carry steam all night without attention on this cheap fuel, even during the coldest weather. The store has been well-heated all the time and we are entirely pleased in every way.

Wishing you the best of success, we remain,

Yours truly,
H. W. SCHWICKENDIEK & CO.

Important.

When visiting New York city, save baggage express and carriage hire, and stop at the Grand Union Hotel, opposite Grand Central Depot.

600 handsomely furnished rooms at \$1 and upwards per day. European plan. Elevators and all modern conveniences.

Restaurants supplied with the best. Horse cars, stages and elevated railroads to all depots. You can live better for less money at the Grand Union Hotel than any other first-class hotel in the city.

THE American House, Boston, is adding every day to its fame and popularity as one of the best hotels in the East. There is no pretentious display, but everything is of the very best, and a desire to please is apparent in every department.

WHEN in Cincinnati, stop at the Palace Hotel. Rates, \$2.00 and \$2.50 per day; meals, 50 cents each. Elegant rooms; fine table, and centrally located.

WESTPHAL'S IMPROVED
REVOLVING
SCREW, BOLT AND SHOT
CASES.
ADJUSTABLE FIRE BACKS
AND LININGS FOR COOK STOVES.
IRON STORM THRESHOLDS.
SEND FOR ILLUSTRATED CIRCULARS
SCHENCK'S ADJUSTABLE FIRE BACK CO.
94 MARKET STREET, CHICAGO.

BRICK AND TILE MACHINERY
BEST IN THE WORLD.
Send for circular & prices.
J. W. PENFIELD & SON,
Willoughby, Ohio.
Stands Unrivaled. Look Box 24.

BOOKS Relating to Mechanical, Mining and Electrical Engineering. Descriptive Catalogue and information about any book sent promptly on application.

E. & F. N. SPON.

13 Cortlandt Street, - NEW YORK.

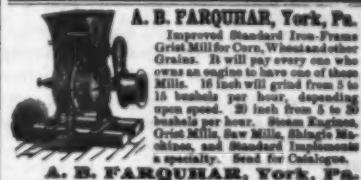
JOHN WILEY & SONS, 15 ASTOR PL. New York.

Scientific and Industrial Works.

Send for Catalogues and Circulars—Free by mail.



FOR THE BEST
BOILER COMPOUND,
ADDRESS
THE INTERNATIONAL MFG. CO.
280 Pearl St., CLEVELAND, OHIO.



For the Latest Improved—
FAST FEEDING

Planing Mill Machinery,

ADDRESS THE
Preble Machine Works Co.,
CHICAGO, ILL.

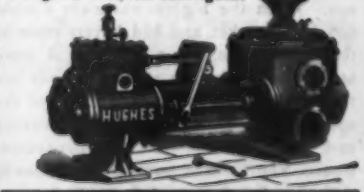
DON'T BUY AN
ENGINE
—OR—
BOILER

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 1400 in use. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 30 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works,
BALDWINVILLE, N. Y.

STEAM PUMPS

For every duty. Best Materials only used. Fully guaranteed and tested. It will pay you to write for prices.
HUGHES STEAM PUMP CO.,
CLEVELAND, OHIO.
Deegan & Swift, New York Agents.



PERFORATED METAL
FOR
COTTON SEED OIL MILLS
RICE MILLS
MINING SCREENS &c
THE ROBERT AITCHISON
PERFORATED METAL CO.
76 Van Buren St. Chicago Ill.

S. OBERMAYER FOUNDRY SUPPLY MFG. CO.

Foundry Facings.

IMPORTERS OF
GRAPHITE

Or Black Lead

AND

Lubricating Plumbago.

NO CHARGE FOR TRIAL SAMPLES.



Foundry Supplies.

SHIPPERS OF ALL KINDS OF

Molding Sands

Monk's Molders' Tools.

CINCINNATI, OHIO, U. S. A.

Write for Catalogue and Price List.



Excelsior Cider Mill.

MANUFACTURERS OF IMPROVED

Farm Machinery

And Agricultural Implements Generally.

Of our Seasonable Specialties we mention: Excelsior and Hutchinson Cider Mills, Stonewall Gins, Feeders and Condensers, Smith's Lever and Daisy Feed Cutters, Daisy and Reliance Corn Shellers, Plovers and Castings for Southern trade. Write for circulars and prices.

S. R. WHITE & BRO., Norfolk, Va.

Monarch Baling Press.

Best Hand Press in the world. Made for both Hay and Cotton.



Also manufacturers of the celebrated "Boss" Plover and all kinds of Plover Castings; send for circular and prices.

Wrenn, Whitehurst & Co.

NORFOLK, VA.

Rome Foundry & Machine Works,

ROME, GA.

Manufacturers of the well known

DAVIS DOUBLE TURBINE

Water Wheel

Beyond all question one of the best wheels on the market, and is fully guaranteed.



Send for Illustrated Catalogue and Price List.

ALSO MANUFACTURE

Portable & Stationary Engines AND BOILERS,

Grist & Flouring Mill Machinery.

ASPHALTUM VARNISH,

JAPAN DRYERS, PAINT OILS

EHRET'S BLACK DIAMOND

Prepared Roofing.

CHEAPEST, BEST AND MOST DURABLE.

Ready for use, and anybody can put it on. New descriptive circular just out containing price-list, references and directions for putting on. Agents wanted. Manufactured only by

M. EHRET, JR., & CO.

ST. LOUIS. PHILADELPHIA. CHICAGO.

B. F. STURTEVANT'S

IMPROVED

Steel Plate Exhaust Fan,

FOR

Removing Chips, Shavings and Saw dust from Wood Working Machinery. Send for catalogue No. 39.

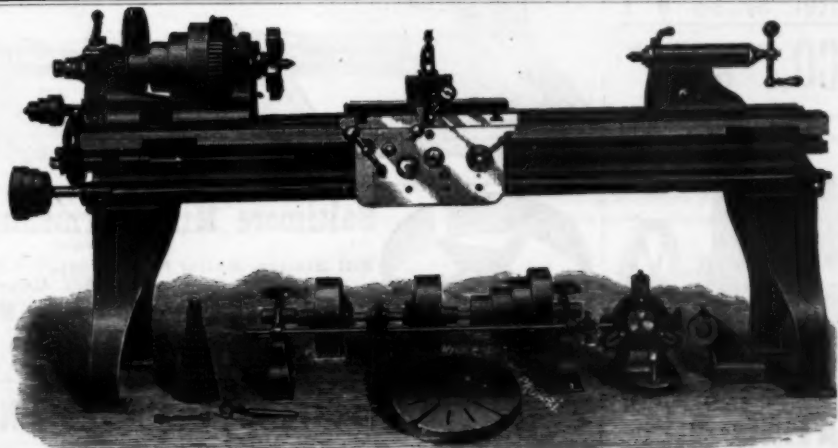
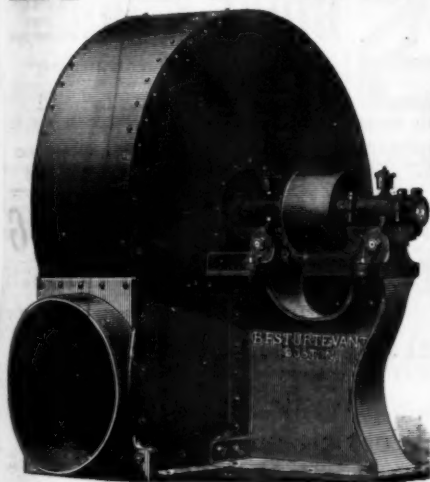
Elevating Wool, Cotton, Cotton-Seed, Seed Cotton Hulls and similar materials. Send for catalogue No. 27.

B. F. STURTEVANT,

BOSTON, MASS.

SALESHOON 115 PURCHASE STREET.

Branches—115 Liberty Street, N. Y.; 31 N. Canal Street, Chicago



NICHOLSON & WATERMAN, Providence, R. I.

DEFIANCE PAINT WORKS, Cincinnati, O.,

Manufacturers

Ready Mixed IRON ORE PAINTS,

ASPHALTUM VARNISH,

JAPAN DRYERS, PAINT OILS

Steam
Engines,
Shafting,
Hangers,
Pulleys, etc.

CANNING MACHINERY,

The Warfield Manufacturing Co.

336, 338, 340, 342 NORTH ST. - - BALTIMORE, MD.

Warfield's
Green Corn
Cutter.

E. W. BLISS CO.

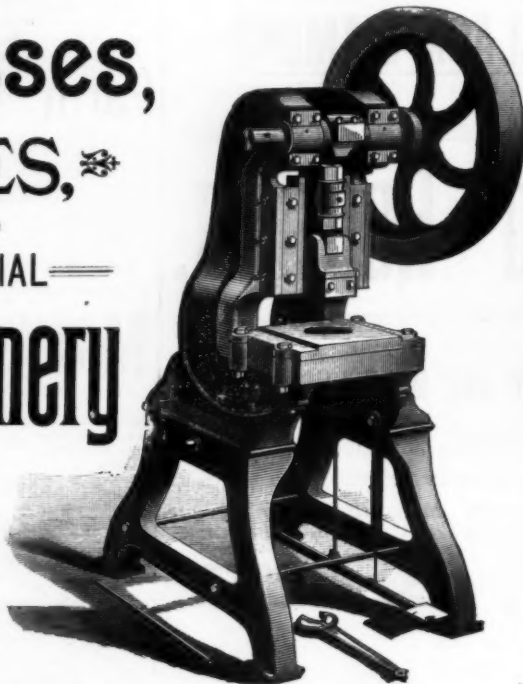
— Plymouth, Pearl, John and Adams Streets, —

OFFICE: 17 ADAMS STREET.

BROOKLYN, N. Y.

Presses, DIES, AND SPECIAL Machinery

FOR
Sheet Metal
Workers.



Cam Toggle and Drawing Presses, Power Presses, Foot Presses, Automatic Drop Presses for Forging and Stamping, Double Seaming Machines for round, square and oval work; Circular Shears, hand and power; Squaring Shears, foot and power; Canning Machinery, Dies of every description, Tools for working Sheet Metals, Petroleum Can Machinery, Special Machinery, Adjustable Machines for cutting all sizes of oval blanks—the only machines in the market that will cut a true oval. Send for circulars.

NIAGARA STAMPING & TOOL CO.

MANUFACTURERS OF

Tinners' Machines

AND TOOLS

For Working Sheet Metal, &c
Squaring and Circle Shears,
Fruit Can Dies and Tools,
CANNERS' OUTFITS.

Superior, Corner of Randall Street, Buffalo, N. Y.

THE LONG & ALLSTATTER CO., HAMILTON, OHIO.

Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN

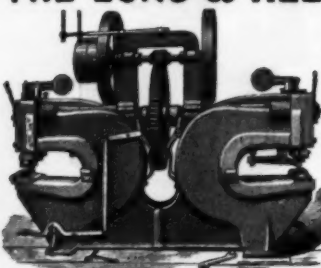
Punches and Shears

Over 300 sizes.

ALSO,

Power Cushioned

HAMMER.



Heavy Double Machine.

Send for New Catalogue.

Heavy Single Machine

DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c. Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine Railways, Clay Temperers. Send for Catalogue.

JAMES MURRAY & SON, 102 to 108 York Street, Baltimore, Md.

WHY BUY WOODEN BLOCKS

WHEN MALLEABLE IRON

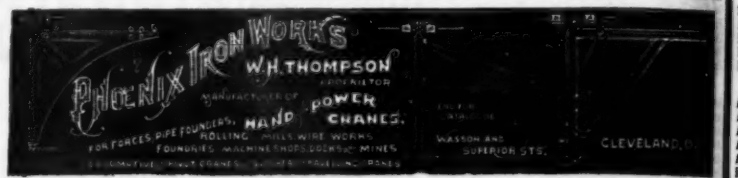
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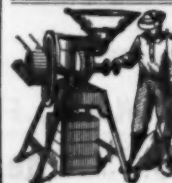
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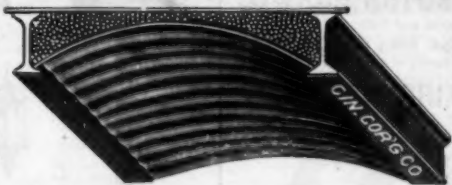
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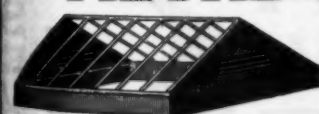
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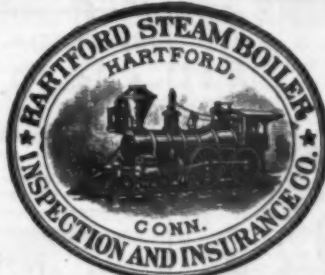
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comprises persons between the ages of 18 and 60, of approved physical condition. The Life Class is separate and distinct from the Accident Class, members being liable for claims only occurring in the class to which they belong.

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secures insurance at cost, and embraces the best features of similar associations, with such improvements added as experience has shown to be desirable for the member's advantage and the security of the association.

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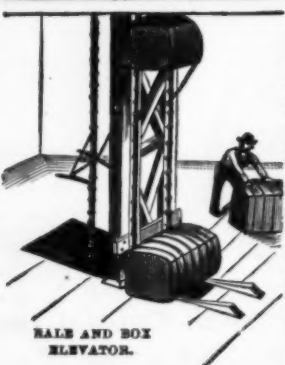
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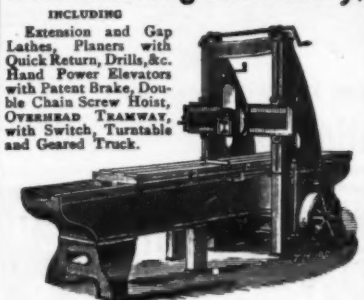
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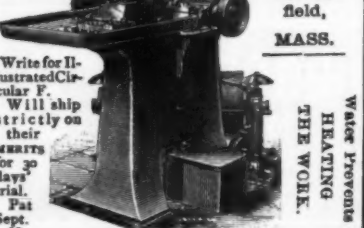
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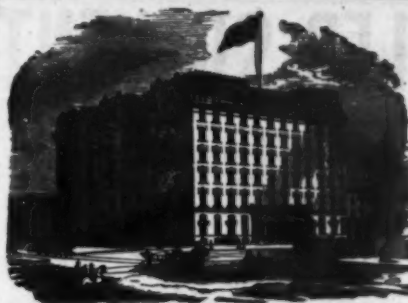
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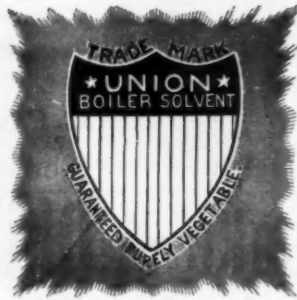
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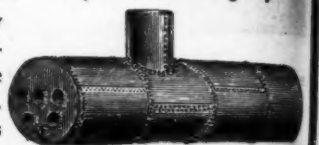
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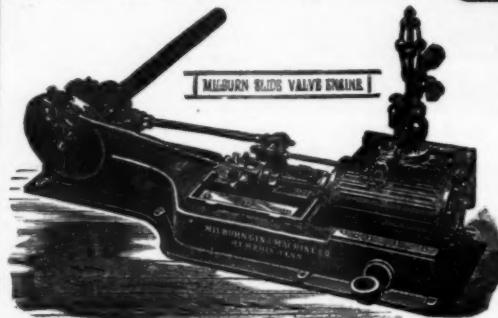
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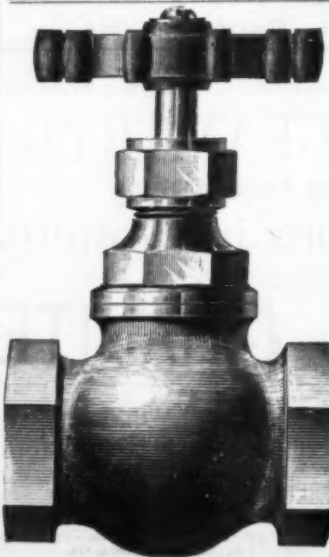
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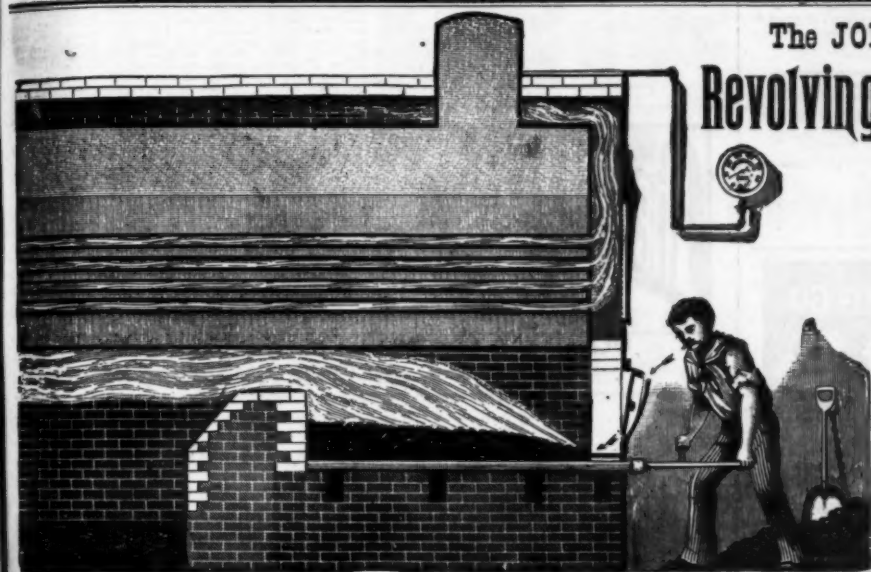
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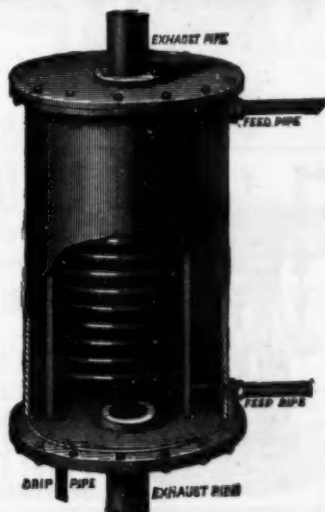
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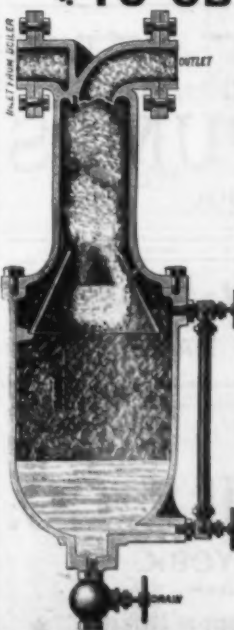
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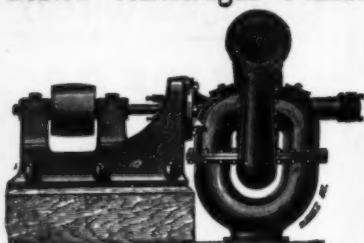
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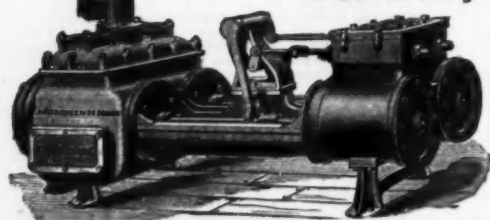
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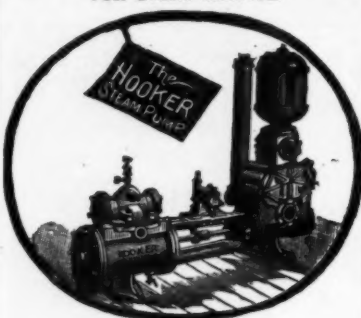
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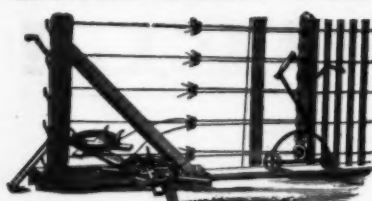
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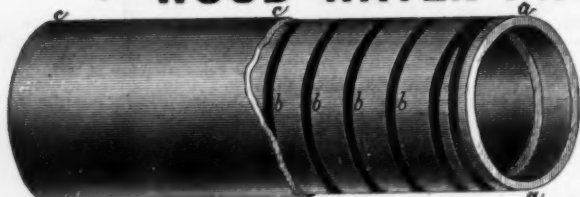
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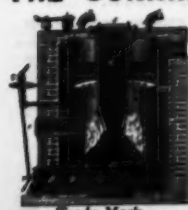
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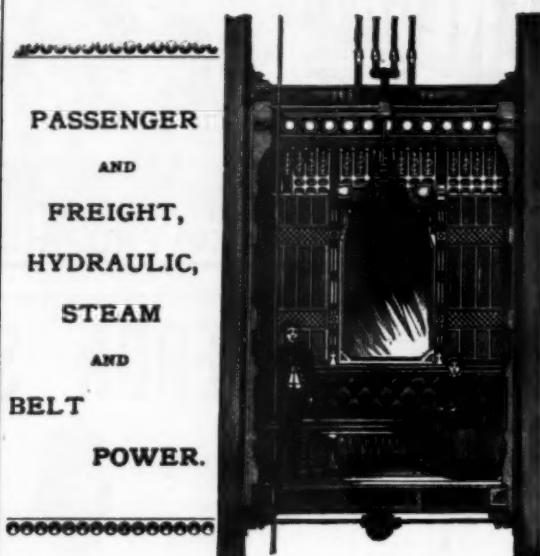
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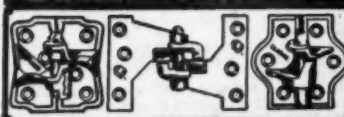
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